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West Virginia

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OF THE

STATE INSPECTORS OF MINES

FOR THE

FIRST AND SECOND DISTRICTS

OF THE

STATE OF WEST VIRGINIA.

For the Year Ended June 30, 1891.

1890/91

CHARLESTON:
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REPORT OF MINE INSPECTOR,

FIRST DISTRICT.

OFFICE OF INSPECTOR OF MINES, FIRST DISTRCT.

To His Excellency, A. B. FLEMING,

Governor of West Virginia :

SIR : In compliance with section 4 of chapter 9 of the Acts of 1890, I submit herewith my annual report for the year ended June 30th, 1891. As required by said section, I have inspected each mine in my district, and have examined carefully into the condition of the same. I found nearly all the mines within the district in good condition, the operators manifestly doing all they could to comply with the requirements of our mining laws, and endeavoring to introduce modern improvements and the better methods of mining.

The various systems of haulage, such as tail rope, endless chain, etc., are rapidly coming into use, lessening the cost of the inside movement of coal and increasing the production of our collieries. During the year two furnaces and five fans were erected within the district, and a number of operators who were using the single-changed to the double-entry system of mining. As to methods of mining in this district, the system known as the pillar-and-stall system is followed. There is no doubt in my mind that the long-wall system could be worked to better advantage in the seams belonging to the middle coal measures, such as the Kittannings and the Freeports, which seams are worked extensively in some portions of the district.

There has been a gratifying increase in the production of both coal and coke within the last year, due to the improved methods of mining and the increasing demands for the products of West Virginia mines. The amount of coal produced during the year within this district, was 2,145,379 long tons (2,240 pounds each), an increase of 534,758 tons over last year's production. The production of coke during the year was 314,758 tons, an increase of 206,587 tons over last year.

The number of mines in this district which come within the purview of the statute is 46. There were six new mines opened within the year, and eight more were projected and about to be put into operation. The number of coke ovens in blast within the district is 1,207, the number building, 255.

There was but one strike of any consequence within the district. This occurred at the Monongah Mines, and while of short duration, it resulted in a serious difficulty in which a miner received a wound from a pistol shot at the hands of a fellow workman. With this single exception, very satisfactory relations have existed between operators and miners throughout the district.

The following report will be found to contain the usual statistical tables relative to the coal and coke production, the number of persons employed as miners and day laborers, the number of accidents reported, and such other information as is required or was deemed of interest and value.

Very respectfully,
D. M. HARR,
Inspector First Mining District, West Virginia.

HOULT, W. VA., Nov. 1, 1891.

DESCRIPTION AND LOCATION OF MINES IN FIRST DISTRICT.

MARION COUNTY.

CLEMENT'S MINE

is located on the F. M. & P. R. R., about 14 miles north of Fairmont, and is operated by the Linden Coal & Coke Co. Ventilation is produced by a furnace, one of poor construction. Roads and drainage, good. This mine has not been in operation since June, on account of fire. Through careless firing, the wood-work of the the up-cast caught fire, thus igniting the coal. They have not been able to work since. The mine is still burning, but preparations are now being made to extinguish the fire. Superintendent, John A. Clark; mining boss, Charles Brooks.

MONTANA MINE.

This mine is situated on the F. M. & P. R. R., about 5 miles north of Fairmont, and is operated by the Montana Coal & Coke Co. Ventilation is supplied by a fan 15 feet in diameter, which produces good results. This mine is worked on the double-entry system. Roads and drainage are good. They have also the latest improved methods of coke making, and contemplate putting in a tail rope or a locomotive to lessen the cost of the inside movement of coal, soon. It is one of the largest mines in the State. Superintendent, J. C. Gaskill; mining boss, Charles Gaskill.

AURORA MINE

is situated on the F. M. & P. R. R., two miles north of Fairmont, and is operated by the Orrell Coal Co. Ventilation is produced by a furnace that is giving good results. The mine is worked on the double-entry system. Roads, good. Drainage, fair. Superintendent, M. D. Orr; mining boss, J. M. Henry.

CENTRAL MINE

is operated by Oliver Jackson. It is on the B. & O. R. R., 1 mile from Fairmont. Ventilation is produced by natural means, and is sufficient for the number of men employed almost the year round. Roads and drainage, good. Superintendent, Oliver Jackson; mining boss, C. Bartholow.

WEST FAIRMONT SHAFT

is located on the B. & O. R. R., 2 miles northwest of Fairmont, and is operated by the West Fairmont Coal & Coke Co. It is 106 feet in depth, and generates small quantities of carbureted hydrogen gas. Ventilation is produced by fan, and the volume of air supplied is sufficient to render the gas harmless. Great care is exercised in keeping the mine in first-class condition. As to roads and drainage, it is the model mine of the district. Superintendent, J. F. Beattie; mining boss, David Evans.

GASTON MINE

is situated three miles southeast of Fairmont, on the Monogahela R. R., and is operated by the Gaston Gas Coal Company. Ventilation is produced by a fan, furnishing a volume of thirty-two thousand feet per minute, and is well conducted through the mine, which is worked entirely on the double-heading system. The roads and drainage are first-class. The thickness of the coal at this mine is eight feet, and about one hundred miners are employed. The number of coke ovens is sixty, and the company is continuing to improve the plant. Superintendent, S. L. Watson; mining boss, G. B. Brown.

MONONGAH MINES

are situated six miles south-east of Fairmont, on the Mononaghela R. R., and are operated by the Monongah Coal & Coke Company. This is the most extensive coal and coke plant in the State. They have all the latest improvements both in mining and in the manufacture of coke. They use the Jeffreys Electric mining machine with success. There are three mines operated by this Company at Monongah.

Mine No. 1 is a slope, ventilated by a fan thirty feet in diameter. When I made my last visit there the ventilation was not the best, from the fact that the return air-way was almost filled up with pumps and debris, obstructing the passage. This mine generates fire damp in small quantities. It is worked on the double-heading system, and the roads and drainage are good. Superintendent, M. G. Tyler; mining boss, J. McKein.

Mine No. 2 is situated about two hundred yards from mine No. 1, and is also a slope. Ventilation is produced by a fan twelve feet in diameter, which is not sufficient to produce the volume of air necessary for all parts of the mine. There has been neglect in putting up the proper brattices in some of the entries. The dust from the mining machines is no doubt an obstruction to ventilation. Superintendent, M. G. Tyler; mining boss, M. Mannix.

Mine No. 3 is situated about one-fourth of a mile southeast of mine No. 2. It is a drift mine, and ventilation is produced by a fan twelve feet in diameter, supplying fifty thousand cubic feet of air per minute. On my last visit I found the ventilation good, except in one entry, which was not extra on account of heavy shooting. I found by investigation that part of the cause was due to neglecting the brattices. The roads and drainage were good. Superintendent, M. G. Tyler; mining boss, J. Taylor.

PALATINE MINE

is situated on the B. & O. R. R., 2 miles southeast of Fairmont, and is operated by the Orrell Coal Co. Ventilation natural and is fair. This is the oldest mine in the region, and is about worked out. Roads and drainage, not very good. Superintendent, M. D. Orr; mining boss, J. C. McKinney.

NOTE.—The above embraces all the mines that come under the jurisdiction of the law in Marion county, and all are worked in the famous Pittsburgh seam of coal.

MONONGALIA COUNTY.

BEECHWOOD MINE

is located on the F. M. & P. R. R., about 12 miles northeast of Fairmont, and is operated by the Hutchinson Coal & Coke Co. Ventilation is produced by a furnace. Roads and drainage are good. Pittsburgh seam of coal. Superintendent, C. E. Hutchinson; mining boss, John Bratt.

MARSHALL COUNTY.

MOUNDSVILLE SHAFT

is situated at Moundsville, and is operated by the Moundsville Coal Co. This mine is worked on the double-heading system, and ventilation is maintained by fans. Great caution is exercised by the officials of this mine in keeping everything in first-class condition, as the mine gives off fire damp freely. I found roads and drainage good. Superintendent, J. O. Brooks; mining boss, John Brooks.

BOGG'S RUN MINE

is situated on the B. & O. R. R., at Benwood, and is operated by the Bogg's Run Mining & Manufacturing Co. Ventilation is produced by a fan, supplying thirty-two thousand cubic feet of air per minute, which gives fair ventilation throughout the mine, with the exception of a few places. Roads and drainage, fair. Superintendent, Phillip Kuntz; mining boss, J. Miller.

MINERAL COUNTY.

VIRGINIA MINE

is located on the West Virginia Central & Pittsburg R. R., about 7 miles from Piedmont, and is operated by the Davis & Elkins Coal Company. This mine is known as the Old Virginia Mine, one of the oldest in the county, and is now about worked out. Ventilation is maintained by natural means. Roads and drainage good. Superintendent, W. S. Blackiston; mining boss, O. Tibbets.

WINDOM MINE

is located on the W. V. C. & P. R. R., about 7 miles from Piedmont, and is operated by S. B. Elkins and Davis Bros. This is a small coal seam known as the Upper Freeport, situated about three hundred feet below the Pittsburgh seam. Ventilation is produced by means of an iron basket. Roads and drainage not very good. Superintendent, W. S. Blackiston; mining boss, T. Tibbets.

ATLANTIC MINE

is located on the W. V. C. & P. R. R., 10 miles from Piedmont, and is operated by the Atlantic & George's Creek Consolidated Coal Co. This mine is well ventilated by natural means. Roads and drainage good. It has been considered the most dangerous mine in the region, and hence there is great care taken by the mine officials, looking to the safety and welfare of the miners. Superintendent, L. T. DeWitt; mining boss, John Jose.

ELK GARDEN MINES, NOS. 1, 3, 4, 5 AND 6,

are located on a branch of the W. V. C. & P. R. R., at Elk Garden, about 28 miles from Piedmont by rail. They are operated by the W. V. C. & P. R. R. Co.

Mines Nos. 1, 3 and 4 are all connected, and ventilation is produced by means of a furnace. It is not sufficient to produce good ventilation in the three mines at all seasons of the year. On my first visit I found the roads and drainage bad in some portions of the mine. Perhaps this was due to the heavy daily output of coal. It is all pillar work. Superintendent, A. C. Rawlings; mining boss, John Eckard.

Mine No. 5, is located a few hundred feet from No. 1. Ventilation is produced by natural means. Roads and drainage, good. Superintendent, A. C. Rawlings; mining boss, C. McCloy.

Mine No. 6, is located about one mile east of Elk Garden. This mine is operated on the double-entry system, there being two entries running parallel to each other through the coal field, the object being to work out the back part of the coal first. This method of working coal does away with the annoyance and trouble of old works, by leaving these behind. The haulage is done by the endless rope system. Ventilation, roads and drainage, good. Superintendent, A. C. Rawlings; mining boss, R. Dunn.

HARRISON COUNTY.

OCEAN MINE

is located on the B. & O. R. R., and is operated by Black, Sheridan & Wilson. Ventilation is produced by natural means. Roads and drainage, fair. It was at this mine that an explosion of gas occurred May 7, 1891, by which four men lost their lives, namely, William Doherty, Joseph Feathers, Nathan Gaines and Charles Welch. The feeder of gas was found in the fourth left entry, in a clay seam. It was first discovered on May 1, 1891, and continued giving off increasing quantities of gas every day. It appears that the necessary care and attention for the removal of this gas was not exercised by the mine officials, as they had knowledge of its presence one week before the explosion. Superintendent, J. D. Wilson; mining boss, Wm. Fowler.

DESPARD MINE

is located on the B. & O. R. R., two miles east of Clarksburg, and is operated by the Despard Coal Co. Ventilation is produced by natural means. Roads and drainage good. Superintendent, Mord. Lewis; mining boss, John Latstetter.

HARRISON COUNTY MINE

is located at Clarksburg, on the B. & O. R. R. This mine was operated but very little during the year. I received no report from it. I understand that it recently went into the hands of other operators. Superintendent and mine boss, John Corpening.

MT. CLARE MINE

is situated on the W. Va. & Pittsburgh R. R., nine miles southwest of Clarksburg, and is operated by Patterson & Mitchell. This is a small mine, scarcely coming under the jurisdiction of the mining laws. Ventilation is produced by natural means. Roads and drainage not very good. Superintendent, M. L. Patterson; mining boss, Robert Mitchell.

HOWARD MINE

is located on the Parkersburg branch of the B. & O. R. R., four miles west of Clarksburg and is operated by the Howard Coal & Coke Co. This mine is dependent on natural ventilation, but the duced by a furnace, supplying ten thousand cubic feet of air per minute. On my first visit the mine was worked on the single-heading system. I explained to the Superintendent the advantage of the double-heading system, and he at once began arrangements for the adoption of that system, and now his mine is well ventilated. Roads and drainage good. Superintendent, Wm. Forbes; mining boss, J. W. Carmicheal.

SHORT CREEK MINE

is located on the line of the P. C. & St. L. Railway. This mine is ventilated by natural means. It does not employ enough men to come under the jurisdiction of the law the year round, consequently is not kept in very good condition at all times. Superintendent, Joseph Cooper.

TUCKER COUNTY.

DAVIS MINES, NOS. 1, 2 AND 3,

are located on the West Virginia Central and Pittsburgh R. R., about 52 miles south of Piedmont, and are operated by H. G. Davis & Brother.

Mine No. 1 is a drift, and is ventilated by a furnace. On my last visit to this mine I found the ventilation good in certain places and not so good in others, the reason being that the air was scattered and not properly conducted through the mine. The furnace has too much to do, it having to supply ventilation also for mine No. 2. The roads were not in very good condition in some of the entries, and the drainage bad, but the rest of the mine was in fair condition. Superintendent, C. B. Colborn; mining boss, Wm. Coulson.

Mine No. 2 is situated a few hundred feet from No. 1, and runs parallel, and is connected with it. Ventilation is produced by the same furnace, and the condition of the mine is about the same as No. 1. Superintendent, C. B. Colborn; mining boss, F. Wilson.

Mine No. 3 is located on the western side of the railroad, opposite No. 2, and has just been opened. It will be the most extensive mine in that region, and great pains have been taken to secure the latest improvements for handling coal. There are one hundred and fifty coke ovens under construction at this mine. Superintendent, C. B. Colborn; mining boss, John Aggleson.

THOMAS MINE.

This mine is located one mile from the Davis Mines, on the W. V. C & P. R. R., and is operated by the H. G. Davis Coal Co. Ventilation is produced by a fan, and is good, the volume of air passing being twenty-two thousand cubic feet per minute. Roads and drainage good. Superintendent, F. S. Landstreet; mining boss, R. G. Haskins.

NOTE. This includes all the mines in Tucker county, now in operation.

The coal is from the bottom seam of the Lower Coal Measures, called the Kittanning seam. The vein worked at Thomas is the Upper Kittanning and that worked at Coketon, is the Lower Kittanning. There is a shaft about completed at Thomas, 180 feet deep, to reach the Lower Kittanning. The coal of both these seams makes the finest of coke and for smithing it has no superior. (See Table of Analysis of Coal and Coke.)

OHIO COUNTY.

TOP MILL MINE

is located north of Wheeling and has been operated by the Wheeling Iron & Nail Co. Ventilation is maintained by a furnace, which produces good air for the number of men employed—about 14. Roads and drainage, good. This mine is now worked out and operations discontinued. Superintendent, H. H. Hornbrook; mining boss, J. Atken.

WHITTAKER MINE

is situated southeast of Wheeling, and is operated by the Whittaker Iron Co. Ventilation is produced by a fan, supplying a good current. The plan of working coal is the double-entry system. I found the air good and well conducted through the mine. This is perhaps the best ventilated mine around Wheeling. I found drainage good, and roads very good, but dusty. I gave instructions to keep the dust well watered down. Superintendent, T. E. Kaseley; mining boss, Wm. Magruder.

LABELLE IRON WORKS MINE

is situated in the southern part of Wheeling, and is operated by the Labelle Iron Works. Ventilation is maintained by furnace. Roads and drainage, good. Superintendent, C. A. Robinson; mining boss, C. Baker.

RIVER SIDE IRON WORKS MINE

is situated in the southern part of Wheeling, and is operated by the River Side Iron and Steel Co. Ventilation is produced by furnace and is good, and mine is well drained. Superintendent, F. J. Hearn; mining boss, Louis Schan.

CENTRAL GLASS WORKS MINE

is situated east of Wheeling, and is operated by the Central Glass Company. Ventilation is produced by furnace. This is a small mine and hardly comes under the jurisdiction of the law. Superintendent and mining boss, J. Jocham.

ELM GROVE MINE

is situated at Elm Grove, twelve miles east of Wheeling, and is operated by the Elm Grove Coal Company. It is a shaft mine and ventilated by means of a steam jet, which does not produce very good ventilation for the number of men employed. However, the superintendent told me he would erect a fan soon, which, no doubt, will remove the cause of the dissatisfaction that has existed between him and his employes for the last few years. Superintendent, W. T. Chambers ; mining boss, Wm. Dennis.

STATISTICAL INFORMATION.

TABLE I.

Showing the Production of Coal and Coke from July 1, 1888, to June 30, 1889, inclusive, in the First District of West Va., Tons of 2,240 Pounds.

COUNTIES.	No. of Mines reported.	No. of Mines not reported.	Production of Mines reported.	Estimated production of Mines not reported.	Total Coal Production.	Coke Ovens.	Production of Coke.
Brooke	2	....	19.203	....	19.203	None	....
Ohio	6	4	109,664	50.000	159.664	....	....
Marshall	2	....	84,606	....	84,606	....	....
Marion,	5	2	245,899	....	245.899	198	52.852
Preston	4	....	134 925	....	134,925	249	48,454
Mineral	4	1	428.365	25,000	453.365	....	....
Tucker	2	1	79.647	....	79.647	78	1.713
Taylor	2	1	177,901	....	177,901	75	2,555
Harrison	4	2	105.540	6,000	111.440	97	2,267
Mason	6	4	116,796	10,000	126.796	....	....
Putnam.	3	1	101,325	6,000	107.325	....	....
Monongalia.	2	1	6,850	....	6,850	69	330
Totals	....	....	1,513 621	97,000	1,610,621	775	108,171

TABLE II.

Showing the Production of Coal and Coke by Counties, from July 1, 1890, to December 31, 1890, and from January 1, 1891, to June 30, 1891, in the First District of West Virginia, Tons of 2,240 Pounds.

COUNTIES.	No. of Mines reported.	No. not reported.	Coal.			Coke.			Ovens in Blast.	Ovens Building.
			July 1 to Dec. 31, 1890.	January 1, to June 30, 1891.	Total.	July 1, to Dec. 31, 1890.	January 1 to June 30, 1891.	Total.		
Marion	10	....	348,728	373.866	722.594	33,782	101,700	165,482	637	18
Monongalia	1	....	22,000	24,100	46.100	2,400	2,500	4,900	10	50
Mineral	5	....	309,961	313,106	623.067	....	....	....	....	....
Marshall	2	....	54,600	63.642	118.242	....	....	....	....	....
Brooke	2	....	17,500	16.499	33.999	....	....	....	....	....
Taylor	2	....	41.203	42,648	83.851	3,600	5,858	8.458	25	....
Harrison	5	1	52,452	60,816	113.268	2,400	3,814	6,214	50	....
Ohio	6	....	38,860	41,878	80,738	....	....	....	....	....
Preston	4	1	63,240	71,227	134.467	31,200	29,340	60.541	255	50
Tucker	4	....	72,428	96,622	189,050	32,220	36,942	69,162	230	137
Total No. of tons produced in the District					2,145,379	Tot'l Tons Coke		314,758	1,207	255

TABLE III.

Showing the Production of Coal and Coke of each Colliery in the First District of West Virginia, for the Year Ending June 30th, 1891.
Tons of 2,240 *Pounds.*

NAME OF COLLIERY.	COUNTY.	Tons of Coal.	Total.	Tons of Coke.	Total.
Montania	Marion.	175,280		65,073	
Aurora	"	47,585			
West Fairmont	"	37,178		6,060	
Palatine	"	35,768			
Monongah, Nos. 1 and 2	"	124,517		26,554	
Monongah No. 3	"	126,378		33,060	
Central	"	3.728		,945	
Clements	"	25.500		13,000	
Gaston	"	146,860	722,594	20,850	165,482
Virginia	Mineral.	90,263			
Atlantic	"	90,690			
Elk Garden	"	442,114	623.067		
Beechwood	Monongalia.	46,100	46,100	4,900	4,900
Moundsville Shaft	Marshall.	32,800			
Boggs Run	"	85,442	118,242		
Short Creek	Broooke.	10.299			
Wellsburg	"	23,700	33,999		
Tyrconnel	Taylor.	71.297		8,458	8,458
Simpson	"	12,554	83,851		
Ocean	Harrison.	20,410			
Despard	"	33,646			
Mt. Clare	"	8.014			
Howard	"	48,562			
Glen Falls	"	2,636	113,268	6,214	6,214
Elm Grove	Ohio.	13.146			
Central Glass Co	"	2,572			
Top Mill	"	17,497			
Whitaker	"	17.582			
River Side	"	14,941			
Lebelle Works	"	15,000	80,738		
Mt. Brook Shaft	Preston.	73,065		22,177	
Irondale	"	9.170		3.600	
West End	"	4.872		3.248	
Austen	"	47,360	134,467	31,516	60,541
Coketon	Tucker.	76.161		60,464	
Coketon	"	52.328			
Coketon	"	780			
Thomas	"	59,781	189.053	8,698	69,162
Grand Totals			2,145,379		314,758

TABLE IV.

Showing the Number of Employes in and around Collieries in the First District of West Virginia, Character of Seam Worked, &c.

NAME OF COLLIERY.	Employes.			Kind of Mine.	Mode of Ventilation.	Coal.				Coke Ovens.	Coke Ovens Building.	Months Run.
	Inside Mine.	Outside Mine.	Total.			Seam Worked.	Thickness.		Kind.			
							ft.	in.				
MARION COUNTY.												
Montana	160	140	300	Drift.	Fan.	Pittsburgh.	6	6	Coke & Gas.	158		12
Aurora	45	16	61	Drift.	Furnace.	Pittsburgh.	6		Coke & Gas.			12
Clements	60	40	100	Drift.	Furnace.	Pittsburgh.	6	6	Coke & Gas.	50		6
Central	9	7	16	Drift.	Natural.	Pittsburgh.	7		Coke & Gas.	10		12
West Fairmont	55	36	91	Shaft.	Fan.	Pittsburgh.	8	6	Coke & Gas.	36		7
Palatine	32	13	45	Drift.	Natural.	Pittsburgh.	7		Ste'm & Gas.			12
Gaston	100	80	180	Slope.	Fan.	Pittsburgh.	7	6	Coke & Gas.	60		12
Monongah No. 1, 2	102	173	275	Slope.	Fan.	Pittsburgh.	8	6	Coke & Gas.	222	18	11
Monongah No. 3	121	140	261	Drift.	Fan.	Pittsburgh.	8	6	Coke & Gas.	101		11
MONONGALIA COUNTY.												
Beechwood	35	25	60	Drift.	Furnace.	Pittsburgh.	8	6	Coke & Gas.	10	50	10
MINERAL COUNTY.												
Atlantic	80	15	95	Drift.	Natural.	Pittsburgh.	13		Steam.			12
Elk Garden Nos. 1, 3, 4, 5 and 6	385	65	450	Drift.	Fur. & Nat.	Pittsburgh.	14		Steam.			12
Virginia	95	26	121	Drift.	Natural.	Pittsburgh.	14		Steam.			12
MARSHALL COUNTY.												
Bogg's Run	60	28	88	Drift.	Fan.	Pittsburgh.	5		Steam.			12
Moundsville Shaft	90	20	110	Shaft.	Fan.	Pittrburgh.	5		Steam.			7
BROOKE COUNTY.												
Wellsburg	23	12	35	Drift.	Furnace.	Pittsburgh.	5	5	Steam.			12
Short Creek	13	4	17	Drift.	Natural.	Pittsburgh.	5	6	Steam.			10

TABLE IV.—Continued.

Showing the Number of Employes in and Around Collieries in the First District of West Virginia, Character of Seam Worked, &c.

NAME OF COLLIERY.	Employes.			Kind of Mine.	Mode of Ventilation.	Coal.			Coke Ovens.	Coke Ovens Building.	Months Run.
	Inside Mine.	Outside Mine.	Total.			Seam Worked.	Thickness.	Kind.			
HARRISON COUNTY.							ft. in.				
Howard	50	20	70	Drift.	Natural.	Pittsburgh.	6 6	Gas & Coke.	50	....	12
Glen Falls	16	8	24	Drift.	Natural.	Pittsburgh.	8	Gas & Coke.	....	....	5
Despard	40	12	52	Drift.	Natural.	Pittsburgh.	7 6	Gas & Coke.	....	....	11
Mount Clare	10	3	13	Drift.	Natural.	Pittsburgh.	8	Gas & Coke.	....	....	12
*Harrison County	....	....	....	....	....	....	....	....	....	....	....
Ocean	26	8	34	Drift.	Natural.	Pittsburgh.	7	Steam Gas.	....	....	10
TAYLOR COUNTY.											
Tyrconnell	75	30	105	Drift.	Furnace.	Pittsburgh.	7 6	Gas & Coke.	25	....	10
Simpson	16	9	25	Drift.	Natural.	Pittsburgh.	7 6	Steam & Gas.	....	....	3
OHIO COUNTY.											
Elm Grove	35	10	45	Shaft.	Steam Jet.	Pittsburgh.	5 6	Steam.	....	....	12
Whittaker	19	6	25	Drift.	Fan.	Pittsburgh.	5 6	Steam.	....	....	12
River Side	15	6	21	Drift.	Furnace.	Pittsburgh.	5 6	Steam.	....	....	12
Central Glass Company	5	2	7	Drift.	Furnace.	Pittsburgh.	5 6	Steam.	....	....	4
Top Mill	16	15	31	Drift.	Furnace.	Pittsburgh.	5 6	Steam.	....	....	9
Labelle	16	5	21	Drift.	Furnace.	Pittsburgh.	5 6	Steam.	....	....	12
PRESTON COUNTY.											
†Mt. Brook Shaft	50	81	131	Shaft.	Fan.	L Kittanning	4 6	Coke & Steam.	105	....	12
Austen	30	50	80	Drift.	Fan.	U Kittanning	4 6	Coke & Steam.	83	....	12
Irondale	35	14	49	Slope.	Furnace.	L Kittanning	4 6	Coke & Steam.	51	....	2
West End	10	5	15	Drift.	Furnace.	U Kittanning	4 6	Coke & Steam.	10	....	10
Oakland	20	15	35	Drift.	Natural.	U Kittanning	3 6	Coke & Steam.	6	50	8
TUCKER COUNTY.											
Davis No. 1	75	81	156	Drift.	Furnace.	L Kittanning	7	Steam & Coke.	208	137	12
Davis No. 2	90	14	104	Drift.	Furnace.	L Kittanning	7	Steam & Coke.	....	....	12
Davis No 3	11	2	13	Drift.	Natural.	L Kittanning	7	Steam & Coke.	....	....	3
Thomas	49	13	62	Drift.	Fan.	U Kittanning	7	Steam & Coke.	22	....	12
Total	2.174	1.249	3,423	....	....	....	....	....	1.207	255	....

*No report. †Abandoned.

TABLE V.—*Showing Location of Collieries in the First District of West Virginia.*

NAME OF COLLIERY.	NAME OF OPERATOR.	NAME OF SUPT.	NAME OF MINE BOSS.	COUNTY.	POST OFFICE.
Montana	Montana Coal & Coke Co	J. C. Gaskill	C. E. Gaskill	Marion	Fairmont.
Aurora	Orrell Coal Co	M. D. Orr	John M. Henry	Marion	Palatine.
Clements	Linden Coal & Coke Co.	John A. Clark.	C. A. Brooks	Marion	Scottdale.
Central	Oliver Jackon	Oliver Jackson	S. N. Jackson	Marion	Fairmont.
West Fairmont Shaft	West Fairmont Coal & Coke Co	James F. Beatie	David Evans	Marion	Fairmont.
Palatine Mines	Orrell Coal Co.	M. D. Orr	James C. McKinney	Marion	Palatine.
Gaston Mine	Gaston Gas Coal Co	S. L. Watson	G. B. Brown	Marion	Fairmont.
Monongah 1-2	Monongah Coal & Coke Co	M. G. Tyler	M. Mannix J. McKain	Marion	Monongah.
Monongah 3	Monongah Coal & Coke Co	M. G. Tyler	J. Taylor	Marion	Monongah.
Beechwood	Hutchinson Coal & Coke Co	C. E. Hutchinson	J. T. Bratt	Monongalia	Beechwood.
Atlantic Mine	Atlantic & George's Creek Consolidated Coal Co.	L. T. DeWitt	John Jose	Mineral	Piedmont.
Virginia	Davis & Elkins Coal Co	W. S. Blackiston	O. Tibbetts	Mineral	Piedmont.
Boggs Run	Boggs Run Mining & Manufacturing Co	Phillip Kuntz	Jacob Miller	Marshall	Wheeling
Moundsville Shaft	Moundsville Coal Co	J. O. Brooks	John Brooks	Marshall	Moundsville.
Wellsburg Mine	Forbes, Carmichael & Co	Wm. Forbes.	J. W. Carmichael	Brooke	Wellsburg.
Short Creek Mine	Joseph Cooper	Joseph Cooper	Joseph Cooper	Brooke	Short Creek.
Howard Mine	Howard Coal & Coke Co.	John Temple	John Temple	Harrison	Wilsonburgh.
Glen Falls	Glen Falls Coal & Coke Co	E. T. Moore,	George Wooley	Harrison	Clarksburg.
Despard Mine	Despard Coal Co	Mord Lewis	John Latstetter	Harrison	Clarksburg.
Mount Clare.	Patterson & Mitchell	M. L. Patterson	Robt. Mitchell.	Harrison	Mt. Clare.
Ocean Mine	Black, Sheridan & Wilson.	J. D. Wilson	William Fowler	Harrison	Bridgeport.
Tyrconnell	Orrell Coal Co	J. H. Henry	Robert Love	Taylor	Tyrconnell.
Simpson	W. E. Colburn	W. E. Colborn.	Patrick Fleming	Taylor	Simpson.
Elm Grove	Elm Grove Coal Co	W. T. Chambers	William Dennis	Ohio	Elm Grove.
Whittaker	Whittakar Iron Co	T. E. Kasley	William Magruder	Ohio	Wheeling.
River Side	Riverside Iron & Steel Co	F. J. Hearn	Louis Sehan	Ohio	Wheeling.
Central Glass Co	Central Glass Co	J. Joachum	J. Joachum	Ohio	Wheeling.
Top Mill	Wheeling Iron & Nail Co	John Atken	John Atken	Ohio	Wheeling.
Labelle	Labelle Iron Works	C. A. Robinson	C. Baker	Ohio	Wheeling.
Mountain Brook Shaft	Orrell Coal Co	J. F. Beattie	James Rodgers	Preston	Newburg.
Austen	Colgate & Co.	C. Jessop	J. M. Whittaker	Preston	Austen.
Irondale	F. Nemigyei	F. Nemigyei	H. Cunningham	Preston	Independence.
West End	West End Coke Co	A. J. Bonafield	Era Dair.	Preston	Tunnelton.
Oakland	Oakland Coal & Coke Co.,	R. J. Anderson	R. J. Anderson	Preston	Oakland, Md.
Davis Mine No. 1	H. G. Davis & Brother	C. B. Colborn	J. C. Humphreys	Tucker	Coketon.
Davis Mine No. 2	" " "	" "	F. Wilson	Tucker	Coketon.
Davis Mine No. 3	" " "	" "	John Agleson	Tucker	Coketon.
Thomas Mine	H. G. Davis Coal Co.	F. S. Landstreet.	R. G. Haskins	Tucker	Davis.
Elk Garden Nos. 1, 3 & 4.	West Va. Central & Pittsburgh Railway Co.	A. C. Rawlings	John Eckard	Mineral	Elk Garden.
Elk Garden No. 5	" " " "	" "	C. McCloy	Mineral	Elk Garden.
Elk Garden No. 6	" " " "	" "	R. Dunn	Mineral	Elk Garden.
Windom.	S. B. Elkins & Davis Bros.	W. S. Blackiston	T. Tibbetts	Mineral	Windom.
Harrison Co.	No Report	John Corpening	John Corpening	Harrison	Clarksburg.

TABLE VI.

Showing Coal and Coke Production, Number of Employes and Fatal and None-Fatal Accidents from July 1, 1890, *to June* 30, 1891, *in the First District of West Virginia.*

(Tons of 2,240 Pounds.)

Actual Coal Production	2,145,379
Quantity of Coke Produced	314,758
Number of Coke Ovens	1,207

EMPLOYES.

Number of inside miners employed	2,174
Number of outside laborers	1,249
Total number of persons employed in and around mines	3,423

PROPORTIONS.

Number of tons of coal produced per life lost	153,241
Number of tons coal produced per non-fatal accident	69,206
Number of tons of coal produced per miner employed yearly	987
Average annual earnings per miner at 45 cents per ton	$ 444
Average monthly earnings per miner at 45 cents per ton	$ 37

AIR, GASES, AND THE DIFFERENT MODES OF VENTILATION.

In response to numerous requests, and from a sense of duty, I deem it proper to introduce in this report such elementary facts relative to the different gases commonly met with in coal mines, and the several modes of ventilation practiced, as will give miners a better understanding of these subjects. The importance of doing so is sufficiently shown by the fact that more than ninety per cent. of the mine explosions occurring in this and other countries, can be directly traced to either ignorance of the causes producing them, or to defective management of mines.

The subjects proper to be considered are: 1. The atmosphere, its composition, properties and general effects on surrounding objects. 2. Gases met with in mines, their composition, density, etc., and how to be governed. 3. Ventilation, distribution of air currents and measurement of their volume.

The Atmosphere.

The atmosphere may be regarded as a fine, subtle, invisible fluid that surrounds the earth's surface in every direction for a distance of forty-five to fifty miles, encasing it, as it were, in a sphere of glass. Although invisible, without taste or smell, it is, nevertheless, a substance possessing both weight and force. In consequence of the high flexibility of the atmosphere, we can move from place to place without any apparent resistance or inconvenience from it, notwithstanding we have individually to support a volume of this transparent fluid, pressing in every direction upon us to the enormous amount of fifteen pounds to the square inch of surface of our bodies.

The elasticity of the atmosphere, like most other material substances, is seen by the way it expands and contracts when subject to pressure or to different degrees of temperature. In its ordinary condition its pressure is equal to 14.7 pounds to the square inch. This is regarded as its elastic force, and is the multiplier of all additional atmospheres with which it is united. The elastic spring of the air is in proportion to the pressure applied to it. If a cubic foot of air be put under a pressure of two atmospheres it will be compressed to one-half its former bulk, and so on according to the pressure applied, but the moment it is released from it pressure it will spring back to its original dimensions. This is called the elastic spring of the air, and the motion of the air to a great extent, if not entirely, depends upon its own elasticity. Its elastic spring is equal to one 459th part of its own volume for every degree of heat to which it is subjected, or in other words, for each and every 459 feet of air the expansion is one foot to every degree of heat added.

The air, like all other material bodies, if not provoked to action by some force, would remain in a state of rest, because of its equal pressure in every direction. But no sooner is its pressure increased or diminished in any particular locality, than it will immediately spring into action and rush forward with the same degree of force that was applied to disturb or destroy its equilibrium. This fact can be easily demonstrated in an ordinary cottage fire grate, where the fire heats the air and causes it to expand, and therefore lessens its density below the density of the cold air in the room, in consequence of which the cold air rushes forward to the fire in pursuit of the hot air ascending the chimney. In this illustration is plainly seen the principle of furnace ventilation.

The density of air is fixed at 100, and this is regarded by chemists as the standard of comparison when treating on the specific gravities of gases and vapors. Air is about 833 times lighter than water and 11,000 times lighter than mercury. The density of air is not uniform throughout its entire volume, but diminishes as it is more distant from the earth's surface. A change of atmospheric density is indicative of heat or cold, and to the coal miner it means a principle which sometimes involves life or death. These changes are made known with an instrument called a barometer.

We have seen that air has weight; that a large mass of it, other considerations being equal, will weigh more than a small one; and a long column more than a short one; that, since heat expands air and lessens its density, a column of warm air weighs less than an equal column of cool air, the difference of weight varying with the difference of temperature; that air is elastic and is compressed or expanded as the pressure upon it be increased or diminished. If, therefore, connection is made between two partially confined columns of air, as in a U-shaped tube, and one is made warmer than the other, the warmer or otherwise more expanded column will not balance the other, and the heavier side will descend and push the other up—the heavier air flowing toward the place originally occupied by the lighter, and additional cool air coming to occupy the space vacated by that which has gone to displace the lighter column; and this will continue until equilibrium is established. Hence, if means are provided for keeping one column constantly lighter than the other, either by heat or some other means, by which it may be expanded, there will be continuous motion towards the lighter column, and we have a continuous current of air flowing in one direction. This is what is required in a mine, and is called ventilation.

Gases Met With in Mines.

The gases which are given off in coal mines are light carbureted hydrogen, called fire damp; carbonic acid gas, called black damp; carbonic oxide gas, called white damp; and sulphureted hydrogen gas, sometimes called stone damp. After-damp or choke-damp is the resulting mixture after an explosion.

Fire Damp.—Light carbureted hydrogen gas is one of the most dangerous gases encountered in mining. It issues from the pores of the coal, from the seams in the surrounding strata, and sometimes it will burst forth from cavities in the rocks under great pressure, like steam from a boiler. These sudden outbursts are extremely dangerous, as they sometimes fill the excavation in the vicinity so quickly that persons are liable to be suffocated, and as the gas spreads and mixes with the air of the mine, it renders the whole surrounding atmosphere dangerous, and when it comes in contact with an open light an explosion is the result. This gas being only half as heavy as the air, will find the highest excavations in a mine, but gradually diffuses itself in the air. The object of the ventilation of mines is to remove this and other gas by air currents, or so dilute them as to render them non-explosive. This gas is not absolutely poisonous, but if breathed for a few seconds it will cause dizziness and prostration, and if the person be not removed quickly he will die for want of oxygen.

The safety lamp is the only safe detector of this gas. According to scientific experiment, admixtures of about thirty volumes of air to one of gas, up to fifteen of air and one of gas, will not explode, but will show an elongation of the flames of the lamp with a faint blue halo surrounding the flame. Nine to ten volumes of air to one of gas is said to be the most violent explosive mixture. Add more gas and the mixture becomes less explosive, until with only four or five volumes of air to one of gas, it becomes non-explosive, but will extinguish lights. To ascertain the percentage of gas, with a safety lamp, the following rule and tables are given: Have safety lamp in good trim, light showing one-eighth of an inch high, one-fourth of an inch at the base. On entering a body of gas which is sixteen volumes of air to one of gas, the flame of the lamp will be enlarged to three and three-eighths inches high; eighteen volumes of air to one of gas, height of blaze, two inches; twenty volumes of air to one of gas, height of blaze, one and one-sixth inches; twenty-five volumes of air to one of gas, height of blaze five-eighths of an inch; thirty volumes of air to one of gas, height of blaze, three-eighths of an inch; forty volumes of air to one of gas, height of blaze, one-fourth of an inch; fifty volumes of air to one of gas, blaze one-eighth inch high. Anything less can hardly be detected with the safety lamp. Heavy carbureted hydrogen is not common in our mines, as it is not a product of nature. Its presence is due to the decomposition of coal from heat, four volumes of hydrogen uniting with two volumes of carbon to form this gas. It may be found in coal mines where large quantities of fine coal dust are buried in the goaves, under such circumstances that the enormous pressure of overlying strata would cause great heat, say to such an extent as would fire the dust. Under such conditions this gas would be given off freely.

Black Damp.—There are few if any mines in this country in which more or less black damp is not found. It is produced by decaying organic matter, by the breathing of men and animals, the burning of powder and lamps in the mines, and, in connection with carbonic oxide, from the combustion of all substances containing carbon. This gas can easily be detected by watching the blaze of the lamp. When the air is lightly mixed with it the lamp burns brightly, if there be much of it, the lamp burns dimly or may become extinguished. A light cannot burn in ten per cent of this gas, and it is dangerous to breath from seven to eight per cent. It is injurious to work in mines not kept reasonably free from it, as it brings on drowsiness, headache and in course of time undermines the constitution. This gas is one and one-half times heavier than the atmosphere, lies on the floor of mines, and requires strong currents of air to remove it. The ventilation of our mines must be sufficient to cope with this gas, if lives and property are to be protected.

White Damp.—This gas is perhaps the most dangerous of all the gases met with in coal mines. It originates from mine fires, sometimes from furnaces; and it is the product of every powder explosion. Unless thorough ventilation is maintained, it is present in sufficient quantity to work injury in every mine in which coal is blasted. This gas can only be detected by its slight odor, the lamp giving no indication of its presence. A few minutes in this gas and a person will be overcome by dizziness or fainting, and if not removed promptly death will follow. Three per cent. of this gas mixed with the atmosphere is sufficient to cause death. It is a trifle lighter than pure air and its composition is one part carbon and one part oxygen.

It may not be out of place here to warn persons without experience to exercise the utmost caution in entering a mine after an explosion has taken place. The resulting "after damp" is of an extremely poisonous nature, and "white damp," though its presence cannot be detected with a lamp or other methods, may be there in quantities sufficient to cause death. It is often the case that men proceed into a mine before the ventilation is restored, and are not aware of the poisonous nature of the atmosphere until they are overcome, and they perish before they can retrace their steps. It is carbonic oxide gas or "white damp" that poisons them.

Sulphureted Hydrogen Gas.—This gas is produced where sulphur pyrites are decomposing with hydrogen. It is chiefly found in abandoned, unventilated workings and places in mines containing stagnant water. When mixed with air it burns with a blue flame. Lights will burn in a body of this gas in which life cannot exist. It can easily be detected by its peculiar odor, resembling that of rotten eggs. It is seldom met with in mines, and is therefore one of the less common dangers encountered in mining.

After Damp.—This gas is a resultant mixture after an explosion of fire damp, and is composed of about seven parts nitrogen, one part carbonic acid and two parts vapor. In other words, it is air with the oxygen burned out and some carbonic acid gas it.

Ventilation of Mines.

As indicated by what has been written, the proper ventilation of mines is the most important subject connected with mine engineering. A lack of knowledge on this subject is the fruitful source of colliery explosions. Briefly the demands for ventilation of mines are three: 1. The men and stock must be supplied with the proportion of fresh air required by each for respiration, and since a man at hard work requires from two to three times as much air as when otherwise engaged the supply must be proportionately increased. Added to the amount required simply for respiratory purposes is the quantity requisite for maintaining clear lights. 2. An additional amount is required for the purpose of counteracting the vitiation of the mine atmosphere, due to the exhalations of the men and animals, the products of burning lamps and the accessions of foul gases from various sources 3. There must be a sufficient quantity of fresh air constantly supplied to dilute whatever inflamable gases may be present, and prevent accumulations of explosive mixtures.

In arranging for the ventilation of a mine it is necessary: 1. To have two openings in order that there may be two air columns, that at which the air enters being designated as the downcast or intake, the other as the upcast or outlet. 2. To provide a way by which one air column shall be kept constantly lighter than the other, in order to secure a current that is permanent in direction. 3. To see that the means adopted is adequate for the work required of it; that the volume of the current is sufficient for the needs of the mine. 4. To see that the current thus secured shall be properly conducted through all parts of the mine where fresh air is needed.

Natural Ventilation.—Only in exceptional cases can a sufficient ventilating current be obtained by "natural means" To understand the theory of natural ventilation it must be remembered that the height of the atmosphere does not follow the undulations of the earth's surface, but that its outer edge is everywhere an equal distance from the earth's center, and that if it is fifty miles high from the bottom of a valley, it will only be forty-nine miles from a neighboring mountain which is one mile high. It follows that the pressure at the summit of the mountain is always less than it is at the bottom of the valley; therefore, if two shafts are sunk from different surface levels to the same level at the bottom, and connected by an air way, and there is a difference of temperature of the air inside and outside the shafts, there will be a current of air created because the density of the columns of air in the two shafts will differ. If the temperature outside the shafts be higher than within, as in summer, the air current will descend the deeper shaft; in winter time the direction of the current will be reversed. In case of a drift driven into the side of a hill, connected with an air shaft on the summit, the same results are produced. The difference of the weight of the air in the shaft and of the imaginary air column in the open air from the mouth of the drift to the level of the shaft, is the pressure producing the ventilation. When the temperature becomes the same inside and outside the mine, there is no circulation of air. Natural ventilation on account of its feebleness and liability to derangement by change of the temperature of the atmosphere at the surface, is therefore inadequate to supply mines of any considerable magnitude, and is generally regarded as a failure.

Artificial Ventilation.—There are several methods of producing artificial ventilation: By expanding the air of one column so that it shall be lighter than the other, which is accomplished by heating the air by means of a furnace, by the action of a steam jet, or by rarefying the air by use of an exhaust fan; or by rendering the air of one column heavier than the other by use of forcing fans or "blowers."

Furnace Ventilation.—Other considerations being equal, the efficiency of a given furnace is increased or diminished as the height of the column of heated air is increased or diminished, or is increased or diminished as the temperature of the column is increased or diminished. To increase the effect of a given furnace, then, either the height of the up-cast must be lengthened—which is done by adding a stack to the top of a shaft (just as the draught of a fire-place is sometimes increased by adding to the height of the chimney) or methods must be devised for adding more heat to the air—which may be done, until the capacity of the furnace is reached, by maintaining stronger fires and seeing that none of the heat is wasted.

Furnace ventilation, like that of natural, varies as the temperature of the atmosphere varies. For an illustration we will take a mine ventilated by a furnace, the up-cast of which is one hundred feet in depth. In the winter time we will suppose the air to be going into the mine at a temperature of 32°, passing through the furnace at a temperature of 150°; from this difference of temperature we have over nineteen feet of a motive power driving the circulation, or in other words, the down-cast has the weight of nineteen feet of an air column over that of the up-cast. This is sufficient to give good ventilation in most mines under these conditions. Now suppose we take the same mine in the summer time, when the air is passing in at a temperature of 90°, and passing through the furnace and up the up-cast at 150°. We find that there are only sixty degrees of a difference of temperature in the down-cast and the up-cast, producing but 9.8 feet of a motive power. Thus we have lost over half of the ventilating pressure and half of the volume of air while burning the same amount of coal as in the winter. Suppose it required one ton of coal a day to produce fourteen thousand cubic feet of air per minute in the winter time, when the temperature is 32° at the intake and 150° at the up-cast, it would require eight tons of coal per day to produce the same amount of air in the summer time when the temperature is 90° at the intake and 150° at the up-cast. To double the volume of air requires eight times the horse power.

I cannot recommend furnace ventilation for shallow mines, such as ours. In deep, dry shafts as in England, they produce a better effect, for the deeper the up-cast the greater the motive power. In any case, unless the fire is regularly attended to, a furnace will be of little service. Yet inattention to the fire is a common failing, particularly at the smaller mines, where the fireman is also required to look after the roads.

Fan Ventilation.—For shallow mines fans are unquestionably superior to furnaces as a means of ventilation. It is not deemed necessary to enter into a lengthy discussion of fans. The exhaust fan draws by suction a given amount of air from the mine at every revolution it makes; this withdrawal of air from the mine produces a partial vacuum, and the difference of pressure causes fresh air to rush into the mine to replace what has been drawn out, thus creating a regular current. The fan may be attached to or operated by either water, steam or electric power. In most cases it is located on the surface where it can be reached in all emergencies, and it is a machine that can be regulated to suit the necessities of the mine. It is therefore considered the safest and the cheapest method for artificial ventilation. The forcing fan is enclosed and connected by a casing with an opening of the mine.

A comparatively small fan will do efficient work at a shallow but extensive mine, where otherwise an unusually large furnace or an enormously lengthened up-cast (shaft and stack) would be required. In order to produce constant and reliable ventilation, however, it is necessary to maintain a constant ventilating pressure. All fans are subject to adverse effects from storms and high winds, from slipping of belts, variations of motive power, etc., and for that reason every fan should have a gauge showing the ventilating pressure.

Other Modes of Ventilation.—The principal effect of a steam jet is that of a blast, and as a means of producing a ventilating current it is comparatively of little value for the power consumed. Blasts of compressed air may also be used to impart motion to the up-cast column; and falling water may be used to lower the temperature of the down-cast column, thus rendering it heavier; but such means really give such small returns for the expense involved that they may be dismissed from consideration.

FATAL AND NON-FATAL ACCIDENTS.

The number of accidents that occurred during the year were: Fatal, 14; non-fatal, 24. The names of the persons and causes of the accidents will be found below. After making careful inquiry into the causes of nearly all these accidents, I find that a majority of them resulted from carelessness on the part of the workmen themselves. I have, therefore, warned men time and again to exercise more caution in the mines. A careless miner is the worst enemy the mine workers have. I cannot see how best to remedy this evil, but would suggest that the mining boss in charge exercise more rigorously his authority in the matter when visiting the miners' places. He should see that all loose slate is taken down and that all strong slate be well posted. In no case should a mine boss allow men to work in danger, no matter what their experience may have been.

FATAL ACCIDENTS.

Montana, Marion county, October 14th, 1890, William McDonald was killed by the fall of slate while mining. He was 35 years of age and unmarried.

Clements, Marion county, September 22nd, 1890, A. Nicholson was on his way to charge the 20th oven, which is 100 feet from the end. It appears that he lost control of the larry, or could not apply the brake, and, consequently, the larry ran over the end of the ovens, carrying him with it, and crushing him to death. He was 21 years of age and unmarried.

West Fairmont, Marion county, December 2nd, 1890, T. S. Helmick was instantly killed by the fall from the top of the dump-house of a piece of scantling which struck him on the head. He was 28 years of age, married and left three children.

Palatine, Marion county, May 31st, 1891, G. Davis was caught between car and rib while changing switch, and killed. He was 15 years of age.

Atlantic, Mineral county, January 9th, 1891, J. Paugh was killed at the bottom of the plane by a run-away trip. He was 38 years of age, married and left four children.

Wellsburg, Brooke county, January 5th, 1891, Wm. Bailey was killed at the face of his room by the fall of slate from the roof. Aged 67, married, and left one child.

Wellsburg, Brooke county, March 23rd, 1891, Wm. Fraser was killed by slate which fell from the roof and broke his neck. Aged 60, married, and left one child.

Mountain Brook Shaft, Preston county, C. Fortney, single, was killed by a fall of slate.

Ocean, Harrison county, May 7th, 1891, Wm. Daugherty, J. Feathers, N. Gains, and C. Welch met their death by an explosion of light carbureted hydrogen gas. They were badly burned and no doubt instantly killed. All were married and left families.

Whittaker, Ohio county, February 6, 1891, R. Walters was caught by the fall of rock from the roof of the entry where he worked, and being close to no one, laid under the rock for two or three hours before being released. His injuries proved fatal, and he died on the 10th of February. He was 62 years of age, and married.

Thomas, Tucker county, November 6th. W. G. Myers had both legs broken by a fall of slate. Other injuries which caused his death were sustained. He was 21 years of age, and unmarried.

NON-FATAL ACCIDENTS.

Montana, Marion county, March 12th, 1891, E. S. Gaymast had a foot injured by a coke larry running over it.

Montana, Marion county, May 13th, 1891, J. G. Komas had a foot and shoulder badly bruised by a fall of slate, while making a break in the pillaring.

Monongah No. 3, Marion county, June 3rd, 1891, John Hemrick was slightly injured by a fall of slate.

Monongah, Marion county, August 13th, 1891, James Durkin had aleg broken by a fall of coal.

Monongah, Marion county, August 13th, James Irvin had a leg broken by car.

Monongah, Marion county, April 27th, 1891, R. Reynolds had an arm broken by machinery.

Monongah, Marion county, May 20th, 1891, C. Jackson had an arm broken while drawing timber in mine.

Monongah, Marion county, October 2nd, 1891, Robert Fox had a finger cut off.

Monongah, Marion county, May 2nd, 1891, G. Richards, slightly injured by cars.

Aurora, Marion county, May 21st, 1891, John Snider, arm caught and slightly injured while putting down brake on car.

Atlantic, Mineral county, January 9th, 1891, F. P. Hughes, arm broken by run-away trip on plane.

Atlantic, Mineral county, January 9th, 1891, John Deveney, two ribs broken by run-a-way trip on plane.

Atlantic, Mineral county, January 9th, 1891, Curt. Owens, burnt with powder about the face and hands.

Wellsburg, Brooke county, September 29th, 1891, J. Mack, one bone in leg broken by fall of slate.

Wellsburg, Brooke county, March 19th, 1891, L. Hooker, rib broken by fall of slate.

Mt. Clare, Harrison county, May 20th, 1891, L. Mitchell, foot mashed by fall of slate.

Mt. Clare, Harrison county, April 4th, 1891, B. J. Snider, leg mashed by a fall of slate.

Mt. Clare, Harrison county, May 19th, 1891, C. S. Hurst, back injured by fall of slate.

Newburg, Preston county, July 16th, 1891, C. Herndon, leg crushed under car, and amputated below the knee.

Coketon, Tucker county, June 10th, 1891, J. W. Flanagan and Thos. McDonald, burned by an explosion of powder ignited by lamp. Not seriously injured.

Coketon, Tucker county, August 25th, 1891, A. F. Gandy received severe wound on the head by a fall of slate, but not fatal.

Elm Grove, Ohio county, January 6th, 1891, Wm. Green was run over by mule and car while asleep. Received serious injuries, but not fatal.

Riverside, Ohio county, February 9th, 1891, J. Craft, arm caught between car and post, and broken.

EXPLOSIONS.

There has been but one explosion of gas during the year, from which, however, four men lost their lives. This happened May 7, 1891, in Harrison county, at the Ocean mine, operated by Black, Sheridan & Wilson. This mine is located above water level. The coal does not give off any gas. The gas that caused the explosion was struck in a fault or clay seam. There is no doubt that the necessary precaution was not exercised either by the miners or mine officials, as both had knowledge of the existence of this gas one week previous to the explosion. I had no knowledge of any gas being in this mine until I received a telegram stating the accident. I went at once to the scene of the accident. When I reached there the bodies had been taken from the mines. Superintendent R. D. Wilson and myself immediately made an investigation of the mine. The explosion had done considerable damage. There was still about 3 feet of gas in the entry where it was first found. I gave instructions to close the mine until it was put in proper condition and made safe. It has been idle since that time, although it can be made safe with little expense.

ANALYSES.

Table Showing Analyses of Coal and Coke in the First District of West Virginia.

NAME OF COLLIERY.	Fixed Carbon.	Volatile Matter.	Water.	Sulphur.	Ash.	Chemist.
Clements—Coal	55.2	37.00	1.0	0.8	6.	A. S. McCreath.
—Coke	87.5	....	0.3	1.2	11.	
Montana—Coal.......	56.569	36.783	1.424	0.711	4.51	A. S. McCreath.
—Coke	89.856	09.00	.702	0.82	8.40	
Monongah-Coal......	53.48	36.92	1.52	1.08	7.	A. S. McCreath.
—Coke......	91.08	1.85	.24	.66	6.17	
Despard—Coal	53.03	4.00	....	....	6.7	Washington Gas Light Co.
Howard-Coal	55.76	37.30	1.10	1.82	3.96	S. C. Ford.
Austen—Coal	58.00	38.00	1.5	.50	.2	P. B. Wilson,
—Coke	87.98	....	0.45	....	11.57	
Davis Mine—Coal....	67.18	26.84	.80	1.68	3.50	
—Coke ...	90.60	1.49	.18	.77	6.96	
Thomas—Coal	72.76	22.90	.96	.59	2.79	J. W. Powell.
—Coke	90.05	1.16	.15	.70	7.94	
Boggs Run—Coal ...	46.30	43.29	1.20	....	9.30	C. E. Dwight.
Moundsville-Coal ...	44.30	45.17	1.01	1.23	8.29	C. E. Dwight.

REPORT OF MINE INSPECTOR,

SECOND DISTRICT.

OFFICE INSPECTOR OF MINES, SECOND DISTRICT.

To His Excellency, A. B. FLEMING,

Governor of West Virginia:

SIR: In compliance with section 4 of the Mining Law of West Virginia, relative to the working, ventilation and drainage of coal mines, I herewith submit to you my annual report as Inspector of Mines for the Second District, for the year ended June 30th, 1891.

In presenting to you this report, I am pleased to say that the advancement of the mining industry during the current year has been equal to that of any preceeding year. There have been about 35 new mines opened during the year, and quite a number of coke ovens built, and other improvements connected with the business of mining have been made in proportion.

The increase in the output of coal has been considerable. The total product for the year ending June 30th, 1890, was 3,572,665 tons, and the product for this year is 5,136,057 tons. In the year 1883, there were only 54 mines in this district, employing 2,962 miners and producing 1,314,363 tons of coal; there are now 135 mines in operation and 8,260 miners employed.

As stated in my report of June 30th, 1890, the Second District is entirely too large for one inspector to examine all the mines as he should and as is comtemplated by section 4 of the Mining Law. The statute says: "Each inspector shall examine the mines of his district, at least twice every year, and oftener if called upon by twenty miners engaged in any one mine, and he shall see that all of the provisions of this act are observed, and strictly carried out," etc. When it is considered that the district extends the entire length of the State, from the Ohio river to the Virginia line, and that the mines are scattered over the counties of Mason, Putnam, Kanawha, Fayette, Raleigh, Mercer and McDowell, it is easy to understand that one Mine Inspector cannot visit these mines and attend to the other duties required by law, more than twice a year, particularly when he may be called at any time by 20 miners to visit any mine in the district. In many cases I have found it necessary to visit some of the mines in the district as often as three or four times during the year, and in many cases, I am sorry to say, I have not accomplished the good that I desired to accomplish. In very few cases have the conditions been such that an injunction should have been served, but in many cases by more frequent visits much good could have been accomplished.

Section 5 of the Mining Law, requires every operator to have his mine surveyed twice within every twelve months, and not more than seven months apart, and deliver to the Inspector of his district a map or plan and statement of the progess of the workings and extensions, so as to enable the inspector to trace the same on the map or plan furnished him, as required by this section. As stated before, there are 135 mines in operation, consequently there should be 270 mine map extensions made during the year. If 5 maps were extended in a day, it would require over two month or 54 days to do this work. Section 4 of the Mining Law requires the Inspector to examine the mines of his district at least twice in each year, &c., and as it is not fair to estimate that a person can visit and inspect more than one mine in a day, upon an average, this would require 270 days. Add the 54 days required to extend the mine maps, and we have a total of more days than there are working days in a year. Section 4 also requires that the Inspector shall for each year ending with the 30th of June, make a written report to the Governor of his proceedings as such Inspector; there is more or less correspondence which must be attended to from time to time; it requires considerable time to arrange statistical tables, &c., and make the report of interest to the public and to those engaged in the business and pursuit of mining.

I have endeavored to do my duty as required by law, to get a statement of the total production of coal and coke, and also the number of persons employed as miners and otherwise in and about the mines. In this report are tables of various kinds, which give such information as is required by law, and some other information that will possibly be of interest to those who are concerned in the prosperity of our leading industry. Wherever I have found mines without sufficient ventilation, or in a dangerous or unhealthly condition, I have invariably suggested remedies and requested the operator and their mine bosses to correct the faults. This has been promptly done in most cases. There have been very few complaints from miners regarding poor ventilation, and in all cases where complaint has been made direct to me in an honorable way, I have given the matter immediate attention.

There were 25 fatalities in the mines during the year ended June 30th, 1890, caused by falls of slate, coal, &c., or one for every 1,425,063 tons of coal produced; for the year ended June 30th, 1891, there were 22 fatalities from similar causes, or one for every 2,334,564 tons of coal produced. This shows a marked increase in the product for each fatal accident over that of last year. The fatalities in the counties of Mason, Putnam, Kanawha and Fayette, are one to every 718 miners employed, while in the counties of Mercer and McDowell, the fatalities are one to every 180 miners. According to these figures about four times as many men get killed in the mines of Mercer and McDowell as in those of the other counties named, in proportion to the number employed. This, however, is not due to the fact that the coverings are more dangerous, but that an inexperienced class of miners is employed, and that the miners are not required by the companies to set posts in their own rooms or working places, the timbering being done by men employed by the operators for that purpose.

It is not reasonable to expect these men to be kept at all times in every working place in the mine to maintain a careful watch and know exactly when and where to set a post, yet this would be the only safe way to protect the miners under this system. The miners can do this work at as small a cost to the company, as the timbermen, then why not pay the miner for timbering his own room and let him be his own protector?

The year for which this report is made, has been one of unusual prosperty. The average number of months worked is 10½. There have been no strikes of any note, excepting that at the Marmet Mining Company's Mines at Raymond, which began about the 1st of January, and was not settled at the close of this year, June 30th, 1891.

Very respectfully,
M. F. SPRUCE,
Inspector of Mines Second District.

EAST BANK, W. VA., NOV. 1, 1891.

VENTILATION OF COAL MINES.

The first object in ventilating a mine is to apply some power to put the air in motion.

This may be done either by a furnance or fan or other means. I know of no application of the fan which is not a success, and has been attended with the healthiest condition of mines. One great advantage in the use of the fan, is the inexpensiveness of it compared with that of the furnance. A ten foot fan properly built, will produce 40,000 cubic feet of air per minute, and can be built for the small sum of $500.00 or even less. There is a great saving in fuel in the use of the fan, as the steam required to run a fan can be made with much less fuel than is required to produce the same air current by the use of a furnance. By the use of the fan, the air current can be controlled so as to pass through the workings of the mine with the same velocity at all times or it can be increased or decreased as necessity requires, by running the fan slower or faster, as the case may be. My experience is that the fan has decidly the advantage in mine ventilation over the furnance. It is noticeable that fans are now used exclusively for ventilating the mines in Mercer and McDowell counties, where the famous Pocahontas seam is worked, and in which that most disastrous explosion occurred, by which 114 persons lost their lives; which was no doubt brought about for want of sufficient ventilation or proper management in conducting the air through the workings of the mine. The managers of the operations in this region are practical, and have profited by experience and know that a mine can be more economically and better ventilated by the use of a fan than by a furnance and therefore they are now using fans exclusively.

The furnace is very expensive to the builder. One that will produce 40,000 cubic feet of air per minute will cost under ordinary circumstances from eight to twelve hundred dollars, and when you are done with it at that place it cannot be moved to any advantage, consequently all the money invested is lost. This is not the case with a fan; the fan, house, engine and all can be moved at a comparative small cost. Furnances are often badly fired. I have seen the fire banked almost to the top of the arch, leaving the space entirely too small for a sufficient quantity of air to pass. The fire should be built and kept burning over the full size of the grate and not allowed to bank and check the passage of the air over the fire. There is always more or less leakage in the trap doors and stoppings in a mine, and all doors and stoppings should be carefully examined two or three times each month, and oftener if necessary, and especial attention should be given to stoppings and doors that are near the fan or furnace, as there is more pressure at these points and consequently there is a greater loss by leakage. I find in a number of mines that the air courses at some points are allowed to become obstructed with falling slate until there is in many cases less than one-fifth the sectional area of the entries and air courses unobstructed; and breakthroughs are often made entirely too small, which increases the friction and makes more pressure on all the doors and stoppings, and no doubt doubles the leakage from these places to the fan or furnace. It will be to the interest of every mine boss to learn that a fan is much better than a furnace. If the fan is properly constructed it can be used either as an exhaust or as a force fan and can be suited to the natural current; that is, used to assist the natural current. For instance, at one season of the year the natural current is inclined to go in the direction of the fan, in that case exhaust the air and assist the current in its natural course, and if it is inclined to enter the mine at the fan house and travel in a reverse direction it would be well to assist it in its natural course by forcing the air in the mine. The exhaust fan will give better results than a force fan, everything else being equal, for the reason that the friction is less because the exhausting of the air from the mine has a tendency to expand the column, or in other words, stretch it and make it less dense, and consequently there is less pressure on the rubbing surface and necessarily less friction; while if the power is applied to force the column through the entries and air courses of the entire mine, it compresses and makes the air more dense and increases the pressure on the rubbing surface, thereby increasing the resistance. This, however, would not be equal to the resistance created by the natural course of the air in many cases, and it would no doubt be better to assist the natural current by forcing the air in the direction of the natural current. The amount of power necessary to ventilate a mine depends upon the length, volume, size and condition of the entries or air courses through which it has to be conducted. When the inner surface of the air courses are smooth, regular and of sufficient size, the resistance and friction will not be so much as when the air courses are filled with falling slate, gob, &c. It is not necessary to search some work on ventilation to find a formula with which to figure what the resistance will be, because the resistance will change from time to time as the progress of mining goes on, and in most cases it is safe to assume that the distance that the air will be required to travel will increase gradually until all the entries required to develope the property have been finished. In most all cases the mine boss knows what the extent of the mine will be when the boundary lines of the property are reached; this being the case he can determine approximately the distance the air will be required to travel to successfully ventilate the entire mine. After that is done without the use of a formula, he can decide that just such a furnace or fan as is in use at some mine that he is familiar with, which is and always has been successfully ventilated, will suit his purpose.

REPORT OF FATAL ACCIDENTS

In Second District of West Virginia for the Year Ending June 30th, 1891.

MASON COUNTY.

In the Hope Salt & Coal Co.'s Mine, John Davis, aged 16, and John Collins, aged 17 years, were killed Jan. 5, 1891. They had fired a shot which knocked out several posts causing a large piece of slate to fall upon them.

KANAWHA COUNTY.

In the Pioneer Mine T. J. Brown, mine boss, was killed January 21, 1891. He was fixing to timber a piece of loose slate, when it fell without warning, killing him instantly. He was about 45 of years age, and left seven children.

In the Keystone Mine, on June 17, 1891, J. W. Mays, working room No. 1 on first left, received fatal injuries resulting in his death two hours after the accident. He was making an under-cut and struck a mud seam, which caused the coal to give way, falling upon him. He was a married man with a family.

FAYETTE COUNTY.

In the Caperton Mine, cn February 2, 1891, Joseph Hull was killed by a fall of slate. He was a single man about 26 years old.

In the Central Mine, Berry Tucker, aged 14 years, attending trap-door, was killed by being mashed. He was asleep on the track some distance from his place at the door at the time of the accident.

At Thurmond, a trapper, Charley Devese, was riding a mule to the barn. When the boy reached his home he threw down his dinner bucket, which frightened the mule, causing it to turn around quickly. The boy slipped off, and in so doing got entangled in the harness. The mule ran several hundred yards, the boy still fast in the harness. He was killed by his head striking the ground. This accident occurred December 8, 1890.

In the Thurmond mine, on September 17, 1890, Jas. Rudolph was killed by a piece of draw slate at the face of his room. Mr. Harris was with him. They had a shovel where the slate was going to fall and Rudolph said he would get it. Harris told him not to do so as the slate was going to fall; he went to reach for the shovel when the slate fell on him. He lived about six hours after the accident.

MERCER COUNTY.

In Booth Bowen C. & C. Co.'s mine, on July 14th, 1890, Joe Miller (Polander) was killed by a fall of coal. He was a single man, about 30 years old.

March 16th, 1891, Mike Discon (Hungarian) was killed by a fall of slate. He was a single man, aged 30 years.

May 5th, 1891, John French, a driver, was killed. Head crushed between car and prop. He was a single man, age 20 years.

In the Buckeye mine, on April 1st, 1891, Jas. Cook, a colored miner, was killed by slip in coal. He was a married man with no children. Aged 28 years.

In Freeman & Jones' mine, on December 3, 1890, Jas. Rudolph (colored), a single man, about 30 years old, was burnt by an explosion of powder; caught cold and died.

March 12th, 1891, A. L. Barnes, a single man, age about 22 years, was picking down coal after a shot, when a big lump rolled on him His butty's light went out while trying to get it off him, and before he could get a light and return, slate fell and killed him.

In the Goodwill mine, on September 23d, 1890, Percy Jones, a colored miner, was killed by a fall of slate. He was a married man with no children. Aged about 25 years.

J. W. Harman, a white miner, was injured by a fall of slate on June 10th, and died June 11th. He was a married man, with three children. Aged about 35 years.

M'DOWELL COUNTY.

In the Crozer Coke & Coal Co.'s mine, on September 20th, 1890, E. Price was killed by a fall of slate.

At the Crozer Coal & Coke Co.'s tipple, on January, 24, 1891, Jim Williams was caught by conveyors and instantly killed.

In the Houston Coal & Coke Co.'s Mine, on the 25th of October, 1890, Joseph Fecter, a Hungarian, was killed by coal falling on him in room No. 39 on the 4th cross entry. He was a married man, aged 34 years.

At Norfolk Coal & Coke Co.'s tipple, A. E. Burton, was fatally injured by railroad cars, in August, 1890. He was a married man with no children; aged about 20 years.

At Lynchburg C. & C. Co's Mine, on March 27, 1891, Jas. Pugh, was killed at foot of plane while putting barney in pit. The barney slipped, dislodging a plank which hit Pugh on the head. He lived about 8 hours after the accident.

In the East Mine, (Pocahontas) on December 22, 1890, J. V. Jones, a miner, was killed by a piece of coal falling from a slip in the face of his room. He was 30 years of age, married; leaves a wife and 3 children.

REPORT OF NON-FATAL ACCIDENTS.

In Second District of West Virginia for the Year Ending June 30th, 1891.

MASON COUNTY.

In the Hope Salt & Coal Co.'s Mine, on January 5, 1891, Chas. Davis, a boy aged 13 years, was injured by a piece of falling slate. He was able to be about in a week.

PUTNAM COUNTY.

In the Plymouth Mine, on —— day of November, 1890, Henry Simmons had his collar bone broken and arm hurt by slate falling on him.

KANAWHA COUNTY.

In the Campbell's Creek Mine, John Burns had his head hurt by falling slate; Joe Winfree, leg broken by falling slate; Riley Muncy, foot mashed by falling slate; W. B. Fisher, spine injured by falling off bottom slate; J.D. McKisson, leg crushed by falling slate; Geo. Janiles, foot mashed by falling slate; Chas. Coleman, finger mashed by falling slate.

In the Crown Hill Mine, on November 30, 1890, Chas Rader, was caught between passing cars on incline, bruised and leg broken.

March 30, 1891, Geo. Fauber, foot caught on rail while getting away from slate, which he had undermined, causing leg to be broken by pressure of slate.

In the Chesapeake Mine, Isaac Chapman had his leg broken by fall of coal.

In the Union Coal Co's. Mine, Jno. Lewis, had his leg broken by a car catching him against some slate, which he was assisting in removing.

Adolph Brown, had his leg broken by a car.

Claude Brown, sustained a fracture of his leg by being caught by a car against some loose slate.

FAYETTE COUNTY.

In the Crescent Mine on November 19, 1890, Thos. Johnson, injured by falling between cars. Hurt in back and hips.

January 12, 1891, Spencer Kilbourne, injured in back and hips, by slate fall.

May, 18, 1891, John H. Perkins, dislocation of hip by slate fall.

In the Crescent mine on November 19, 1890, Samuel Lowe, injured in back by slate fall

In the Mt. Carbon Co's. Mine, on December 11, 1890, Summers Ferrell and Geo. McDarman, slightly injured by fall of slate.

In the Great Kanawha Mine. on March 3, 1891, Geo. Geist, a miner, had his leg broken by a fall of coal, in his working place.

In the Nuttallburg Mine, on April 2, 1891, Albert Ohlinger, had his arm broken by mine car.

In the Stone Cliff Mine, on March 17, 1891, Jas. Burruss, had his foot mashed and shoulder hurt by a fall of slate.

May 8, 1891, Grant Fairfax, had his leg broken by fall of slate.

In the Slater Mine, on February 12, 1891, John McGuire, had his shoulder broken.

In the Rush Run Mine, in December, 1890, James Harrison was kicked by a mule, was able to work again inside of two weeks.

May, 1891, Wm. Elswick was run over by a car, was able to work in about 3 weeks.

In the Thurmond Mine, on October 13, 1890, Patrick O. Gare had his leg broken by a piece of draw slate.

April, 1891, Jerry Harris, a colored man, was seriously hurt by a fall of slate near the face of his room.

MERCER COUNTY.

In Booth Bowen Coal and Coke Co's Mine, on July 25, 1890, Green Hines, a colored man, was slightly injured by fall of slate.

March 16, 1891, John Sowhisky (Hungarian) had his leg broken by fall of slate.

April 11, 1891, A. C. Williams, a driver, had his arm broken.

In the Buckeye Mine, on January 9, 1891, Charles Kiester, a white man, was caught by a fall of draw slate and had one leg and one rib broken.

At Freeman & Jones' Mine, on January 13, 1891, Stewart Maxcy, a white boy about 15 years of age, was caught between two cars on the outside while trying to uncouple; sqeezed slightly.

January 27, 1891, Henry Pasley, a colored boy about 17 years of age, run over by a car on tipple. Leg amputated.

In the Sterling Mine, on June 27, 1891, James Toler, a colored man, single, ankle broken by car running off the track.

In the Louisville Coal & Coke Co's Mine, on April 11, 1891, M. K. Walker (white) driver, had his leg badly mashed between knee and ankle; caught between car and rib.

M'DOWELL COUNTY.

In the Elkhorn Mine, on July 7, 1890, Elijah Mills, a colored driver about 20 years of age, was badly burned by an explosion of powder caused by a spark from his lamp.

In the Turkey Gap Mine, on February 4, Edward Nylet, (white) tracklayer, had his leg broken by fall of slate.

May 11, 1891, Horace Martin, a colored miner, had his leg broken by fall of coal.

June 13, Wash Hampton, a colored miner, had his leg broken by fall of coal.

June 20, J. J. Finney, (white) coke boss, had his arm crushed while coupling railroad cars. Amputated above elbow.

In the Houston Coal & Coke Co.'s mine, on September 5th, 1890, Joseph Nece (white) had his arm crushed while pulling down coal.

In the Lick Branch Colliery, on October 13th, 1890, Robert Bowles had his collar bone broken by fall of slate.

May 11th, 1891, Preston Smith had bone of his arm broken by a fall of slate.

LOCATION OF MINES IN THE SECOND DISTRICT.

MASON COUNTY.

NEW HAVEN MINE

is known now as Flint Hill Mine and is operated by the New Haven Coal and Mining Co. This is a slope mine and is located about one-half of a mile above New Haven, on the Ohio River, and on line of the Ohio River R. R. The mine is ventilated by a furnace, which gives a sufficient amount of air for the number of men employed, but owing to leakage the air current is so reduced as to be scarcely sufficient; the airways were also obstructed with slate. I directed the mine boss to go over the stoppings and make them as tight as practicable, and to clean the airways of falling slate, which he agreed to do at once. E. D Rouch, superintendent; John Field, mine boss.

HARTFORD CITY MINE

is located on the Ohio River at the upper end of Hartford City. This is a slope mine and is operated by the Hartford City Salt Co. The coal is used in making salt. The mine is ventilated by a furnace, which gave 6,000 cubic feet of air per minute on the main entry return; there being only about twenty-three men employed inside, this amount is sufficient. On my second visit this mine was temporarily idle and was not inspected. T. E. Jones is superintendent and mine boss.

JUHLING MINE.

This mine is located back of Hartford City and is operated by the Juhling Coal Co. The mine is worked on the double-entry system, and ventilated by a furnace which gives 6,000 cubic feet per minute at the furnace, which is sufficient. This mine is well managed, in fact it is among the best in Mason County. The coal is hauled from the mines through a tunnel in the front mountain by a small locomotive to the Ohio River Railway and to the river, where it is loaded into cars and barges. There has been no complaint from the miners that I have any knowledge of on account of ventilation and drainage at this mine. Wm. Juhling is superintendent, and Richard Turnball mine boss.

LIVERPOOL MINE.

This mine is located one-half mile below Hartford on the line of the Ohio River R'y. There has been considerable complaint from miners about the ventilation at this mine, and upon examination I found the complaints justifiable. I instructed the mine boss to do such work as would improve the ventilation, which he agreed to do. The coal mined at this mine is used in the making of salt at the Liverpool salt furnace, and is hauled to the furnace, which is at Hartford City, by a tram road. Harry Hart is mine boss and Charles Clifton, superintendent.

GERMAN MINE.

This mine is located on the Ohio River, between Hartford and Mason. This is a new mine and is operated by Pierce Bros. The coal is used by the German Furnace in making salt. There was complaint regarding the ventilation at this mine by persons who did not mine coal at this mine; and upon examination, I found the complaint unjust, as the ventilation was very good. Drainage also good. J. F. Pierce, superintendent and mine boss.

HOPE MINE.

This mine is at Mason City, and is operated by the Hope Salt and Coal Co. There has been complaint from this mine regarding the ventilation, and after examining the mine I found the ventilation very poor. I left such instructions as I thought would better the ventilation and at the same time left my address with the "Bank Committee," who seemed to control the working of the mine, asking them to write me regarding the progress of the work, namely: the sinking of a shaft preparatory to the building of a ventilating furnace. I received no letter giving any definite information regarding the matter. On a second visit I found the shaft had been sunk, but the company had made no preparations to build a furnace. The ventilation was very poor, and especially in some of the rooms that had been driven a considerable distance without a break-through. The shaft is sunk at the head of the entry in which all of the men work and a very small furnace would be sufficient to ventilate the mine. This company is one among the few that have shown a disposition to ignore the mining law as to ventilation. Edward Edwards, superintendent; Henry Williams, mine boss.

STERLING MINE.

This mine is operated on a small scale; the coal is hauled through the old Clifton mines and loaded in cars on the Ohio River Railway. The old part of this mine was badly ventilated, but is now abandoned, and where the miners are now at work the ventilation is good.

CAMDEN MINE

is located four miles below Pomeroy, on the line of the Ohio River Railroad, and is operated by the Consumers' Coal & Mining Co. This mine is ventilated by a furnace, which gave 10,000 cubit feet of air per minute at the furnace. The air is well conducted through the workings of the mine, and there is evidence of good management. The coal is principally mined by electric machines, which have been a success at this place. W. E. Spilman, superintendent, and J. A. Cooper, mine boss.

PUTNAM COUNTY.

CARVER'S MINE

is located on the line of the K. & M. R'y, about twenty miles below Charleston, and is operated by the Carver Coal Co. This mine is ventilated by a furnace which gives 9,850 cubic feet of air per minute, as measured by an anemometer. The air is very well conducted through the workings of the mine, and I consider the ventilation very good, notwithstanding there has been complaint regarding the ventilation. The main entry in this mine has been driven twenty-seven hundred feet in a fault. James Carver, superintendent and mine boss.

BANCROFT MINE.

This mine is about one-half mile above Plymouth on the K. & M. R'y. The mine is worked on the double entry system and ventilated by a furnace, though the air courses leading to the furnace are in such bad condition that what little air current is produced by it is wasted by leakage in old workings, consequently the ventilation is very poor. The same fault that is in the Plymouth mine seems to be here also, as they have driven considerable distance in rock, and at places there is only about 8 inches of coal. Thos. B. Bancroft, ex-inspector of Mines of Ohio, is superintendent, and Richard Entwhistle is mine boss.

QUEEN CITY MINES.

These mines are located about one-half mile above Bancroft and are now idle. C. W. Harper, superintendent.

FLORENCE OR RAYMOND MINES.

These mines are located about 16 miles below Charleston and are operated by the Marmet Mining Co I measured the air at the furnace on Aug. 27th, 1890, and found 15,000 cubic feet at the furnace. The average number ot miners employed at this time is 200; the furnace does not give the amount of air required by law as it would require something over 21,000 cubic feet per minute circulating through the working places in the mine. On my second visit I found the miners on a strike for an advance in the price of mining. I made no inspection. Geo. W. Guysi, superintendent; E. Hemmings, mine boss.

KANAWHA COUNTY.

BLACK BAND MINE.

This mine is on the line of the Kanawha and Coal River R'y, 12 miles from the C. & O. R'y, on Davis Creek, and is operated by the Black Band Iron and Coal Co. The principal work now being done is drawing pillars. The ventilation is very good. A. M. Wooldridge, superintendent; D. J. Cavin, mine boss.

BLACK BAND NO. 2

is known as Sunny Side Mines. These mines are one-half mile above No. 1 mine and are operated by the same company. A. M. Wooldridge, superintendent; D. J. Cavin, mine boss.

CAMPBELL'S CREEK COAL CO.'S NEW MINE.

This mine is on Campbell's Creek, and is operated by the Campbell's Creek Coal Co. It is worked on the double entry system. This mine is under first-class management, as are all of the Campbell's Creek Coal Co.'s mines, and the ventilation and drainage are both good. J. E. Dana, superintendent; Wm. B. Calderwood, mine boss.

SPRING FORK MINE.

This mine is located on Campbell's Creek, one-half mile above the new mine, and is operated by the Campbell's Creek Coal Co. Ventilation and drainage are both good. J. E. Dana, superintendent; Wm. B. Calderwood, mine boss.

HUDSON MINE

is located on Campbell's Creek, and operated by the Campbell's Creek Coal Co. This mine is ventilated by a furnace, which is very good. Drainage also good. J. E. Dana, superintendent; Wm. B. Calderwood, mine boss.

PIONEER MINE NO. 4.

This mine is on the Coal Fork of Campbell's Creek and is operated by the Pioneer Coal Co. All of the entries in this mine have been driven to the boundary lines and the rooms worked up. The pillars are now being taken out. This mine is ventilated by an eight foot fan. The ventilation has always been found good until my last visit. It seems that the air ways have been obstructed by falling slate since the drawing of pillars has been in progress. There is also a portion of the current produced by the fan lost through old workings leading to Dana's old mines. The capacity of the fan is altogether sufficient for the mine if as much as three-fourths of the current could be properly conducted. J. J. Lovell, superintendent; John Gray, mine boss.

GEORGE'S CREEK MINES.

These mines are located on George's Creek, which empties into Kanawha River at Malden. They are operated by the Straughan Mining Co. This is the Campbell's Creek seam The ventilation is maintained by a furnace, which is very good, the drainage is also good. M. H. Straughan, superintendent; W. W. Straughan, mine boss.

DICKERSON MINE.

This mine is one mile above Malden and is operated by John Q. Dickinson & Co. The coal was used for making salt. At present the mine is idle, the salt company having substituted natural gas for fuel.

WINIFREDE MINES NOS. 1, 2, 3 AND 4.

These mines are located on Fields Creek, a tributary of Kanawha River, about 14 miles above Charleston and 5 miles from the Kanawha River and the line of the C. & O. R'y, at the terminus of the Winifrede Railroad. The mines are operated by the Winifrede Coal Co., with R. B. Cassady, superintendent; James Youell and J. W. Nelson, mine bosses.

MINE NO. 1.

is on the south side and is known as the New Drift. The system of working is double entries, and the ventilation is by a furnace which gives a sufficient amount of air; at one time measured with an anemometer it gave 10,000 cubic feet per minute at the furnace, with an ordinary fire. James Youell, mine boss.

MINE NO. 2,

the Old South mine, is on the south side of Fields Creek, and is the original opening of the Winifrede works that were operated by the old Winifrede Co. before the war. The furnace at this mine has been enlarged and does excellent work. There is a mine locomotive hauling the coal from the first double parting, a distance of several hundred feet from the furnace on the return air-way. The furnace clears all the smoke out in about 7 minutes after the engine leaves with the loaded trip. The air is well conducted through the entire workings. The drainage is also good. James Youell, mine boss.

WINIFRDE, NO. 3.

This mine is known as the North Side. It is located on the north side of Field's creek. The main entry in this mine is driven into low coal and abandoned; all the coal on the left side of the main entry is either worked to the crop or to low coal and sloped; they are now drawing pillars. This mine is ventilated by a furnace, the capacity of which is about 15,000 cubic feet per minute. This furnace ventilates the upper or New North mine; G. W. Nelson, mine boss.

WINIFREDE, NO. 4.

This mine is on the North Side of Field's creek, and is properly a continuation of the No. 3 mine. The railroad has been extended about one-half of a mile up the creek, and two new tipples built, one for this mine and one for the New South mine or No. 5. This mine is ventilated by the No. 3 furnace. Owing to the distance the air travels, the current is rather weak at the head of the entry, though there is a sufficient amount for the number of men employed. G. W. Nelson, mine boss.

WINIFREDE, NO. 5.

This is the New South mine, and is opened on the south side of Field's creek, at the extreme terminus of the Winifrede Railway. This mine is ventilated by a furnace, the ventilation is good, drainage also good; G. W. Nelson, mine boss.

WINIFREDE NO. 6.

This is known as the West mine and is located on Mill Hollow, a branch of Field's creek, a short distance below the old south tipple. This mine is reached by a branch railroad up Mill Hollow, about one-half mile in length. The mine is worked on the double entry system and ventilated by a furnace. The company expect to use a mine locomotive in this mine, and are now preparing the main entry road for that purpose. This mine is in good condition as to ventilation and drainage; James Youell, mine boss.

LEWISTON COAL WORKS.

This is a small mine at Winifrede Junction, and is ventilated by a furnace; the ventilation is very good and the mine has a clean, neat appearance inside. M. Bean is superintendent and mine boss.

BLACK DIAMOND MINES.

These mines are located on the north side of the Kanawha River, opposite to Winifrede Junction, and are operated by the Peel Splint Coal Co. I have never found the ventilation in this mine as good as it should be. R. P. Gelham, superintendent, and J. C. Carpenter mine boss.

BLACK PEERLESS.

These mines are located on the line of the C. & O. R'y., a short distance above Winifrede Junction. This is a small mine operated by the Black Peerless Coal Co., and is ventilated by a furnace. The ventilation is not good. C. B. Smith, superintendent; J. M. Massey, mine boss.

PEERLESS.

This mine is on the line of the Chesapeake & Ohio Railway, about one mile above Winifrede Junction, and is operated by the Peerless Coal Co. This mine is ventilated by a fan, which would be sufficient, if the air was properly conducted through the workings of the mine. It is worked on the single entry system, and in most cases the air is very poor in the heads of the entries. They attempt to carry the air by building a slate wall brattice. I found the air courses also in some places entirely too small. At one place the sectional area was not over five feet, and should have been at least 40 feet to correspond in area to the main entry. I gave the mine boss instructions to improve the condition, as required by law. S. W. Bard is superintendent.

STEVENS.

This mine is located on Cabin Creek at the terminus of a branch of the Kanawha R'y, at the head of Long Bottom Branch. I have always found this mine in fair condition, as to ventilation, F. L. Garrison, superintendent; Jno. S. Holms, mine boss.

ACME MINE.

This mine is located on the main line of the Kanawha R'y, on Ten Mile fork of Cabin Creek, 14 miles from the line of the C. & O. R'y. This mine is operated by the Steven's Coal Co. This is a first class seam of hard bituminous coal, which averages 4½ feet in thickness. The mine is opened and started in workman-like order, double-entry system throughout. The ventilation is natural at present, though it is sufficient for the number of men employed. F. L. Garrison, superintendent, and John Shearer, mine boss.

KEYSTONE.

These mines are on Cabin Creek a short distance below the Acme mine, and are operated by the Steven's Coal Co. This is also a splendid seam, of an average thickness of 5½ feet, of soft bituminous. The ventilation is very good. F. L. Garrison, superintendent, and John Shearer, Sr., mine boss.

NORTH COALBURGH.

This mine is on the South Side of Kanawha River, opposite Old Coalburg, and is operated by the Peabody Coal Co. The mine now in operation is opened in the top seam, No. 5 Block, which is operated by the Cannelton Coal Co., at Cannelton; the seam is from 6 to 6½ feet in thickness. As the seam is so near the top of the mountain this company has so far adopted a system of natural ventilation. Rooms or entries can be conveniently driven to the outcrop when needed for air. On my visit, July 21st, I found the ventilation fair. J. A. Carter, superintendent, and James Neylan, mine boss.

COALBURGH NOS. 1, 2 AND 3.

These mines are at Coalburgh on the line of the C. & O. Ry, 18 miles above Charleston. No. 1 mine was operated by the Kanawha and Ohio Coal Co., before the war. The ventilation is natural though fair. There is a furnace at No. 2 mine, but it is not in use, as natural ventilation seems to be good enough. No. 3 mine is opened in a seam above Coalburgh; the coal is lowered by a short incline on the opposite side of the mountain and hauled through the main entry of No. 2 mine to the head of the incline, from thence it is lowered over the incline to the tipple at the C. & O. Ry. There is another incline running from this tipple to the river tipple, by which a part of the coal is loaded into barges. Neil Robinson, superintendent; and Robert Brabbin, Sr, mine boss.

PEABODY MINES NO. 1 AND 2.

These mines are on the South Side of Kanawha River, about one mile above Coalburgh. They were opened several years ago by the Peabody Coal Co., but are now operated by the Monarch Coal Co. This is the Cedar Grove seam, and is a first class quality of coal for steam, domestic and gas purposes. The mine originally was ventilated by a furnace, but the part now in operation is dependent upon natural means for ventilation; the ventilation was not very good. J. D. Harris, superintendent; James Jones, mine boss.

CEDAR GROVE PEERLESS.

This mine is located at Cedar Grove, opposite the town of East Bank. It is opened in the Blacksburg seam, and known as the tunnel. It is operated by the Cedar Grove Mining Co. There has not been much coal shipped from this mine yet, but there is quite a large boundary of it, and it promises to be a large mine; the company have just built a new tipple The mine is ventilated by a fan which gives very satisfactory results. The drainage is fair considering that this is a slope mine. The water is taken from the mine by the use of a steam jet, which seems to be both economical and successful. J. G. W. Tompkins, superintendent; and Joseph Miller, mine boss.

CEDAR GROVE.

This mine is located on the north side of Kanawha River, 19 miles above Charleston, and is operated by the Cedar Grove Mining Co There has been no trouble about ventilation in this mine since the fan was built some time in last year. The drainage is also good. J. G. W. Tompkins is superintendent and Joseph Miller mine boss.

KELLEY'S CREEK MINE.

This mine is at the mouth of Kelley's Creek, one mile above Cedar Grove, and is operated by the Kelley's Creek Coal and Coke Co. This mine is ventilated by a furnace; the ventilation is not good; the drainage is good. Joseph Pirrung superintendent, and Andy P. Shearer mine boss.

BLACKSBURG.

This mine is located just above the town of Eastbank and is owned by the C. & O. R'y. The mine is now idle.

CHESTNUT POINT.

This mine is located at Eastbank and operated by the Eastbank Coal and Coke Co. The mine is ventilated by a furnace; the ventilation is very good; drainage also good. James Arrington, mine boss; J. W. Wilson, superintendent.

EASTBANK.

This mine is at Eastbank and is owned by Stuart M. Buck. The mine is now idle.

CHAMPION MINES.

These mines are one mile east of Eastbank on the line of the C. & O. R'y. There has been some entry driven in the Coalburg and

Crown Hill seams. The drum house is about finished and the incline and river tipple is under construction. Will be ready to ship coal soon. John Banister is superintendent.

BELMONT NOS. 1 AND 2.

These mines are 1¼ miles from Eastbank, on the line of the C. & O. R'y, and are operated by the Belmont Coal Co. No. 1 mine is opened in the Coalburg seam, and has not been operated very extensively. No. 2 mine is in the Crown Hill seam. I examined this mine on March 23d, 1891, and found the ventilation bad. I at once notified the company by letter and suggested the necessary remedies. I examined the mine again on April 4th, 1891, and found no improvement. On April 6th I wrote the following letter to the company:

BELMONT COAL CO., CROWN HILL, W. VA.

Gentlemen: I examined your mines on March 23, 1891, and found same in bad condition as to ventilation, of which I immediately gave you notice, and suggested remedies for the same. I examined your mine again on April 4th, '91 and found the condition as to ventilation not improved, and especially on No. 7 and 8 entries. Therefore in accordance with sec. 12 (of the acts of 1887, Mining Law), I shall apply to the Judge of the Circuit Court for an injunction to restrain further operation until the defects are remedied and the mine properly ventilated, as required by sec. 10 of said Mining Law. The grounds on which I shall apply for this injunction are that for want of sufficient ventilation the mine is not in a healthy condition, as heretofore stated in my notice to you.

Yours, &c.,

M. F. SPRUCE,
Inspector of Mines.

After the receipt of the above letter, the superintendent came to me in person and expressed a willingness to comply with the requirements of the Mining Law, and the application for the injunction was withheld. After the necessary doors were built the ventilation was good. A. C. Masters, superintendent; Wm. R. Hall, mine boss.

CROWN HILL.

These mines are located 1½ miles east of East Bank on the line of the C. & O. R'y, and are operated by the Crown Hill Splint Coal Co. No. 2 mine is opened in the Coalburg seam and has not been operated very extensively. It is ventilated by a furnace. The ventilation is good. No. 1 mine is opened in the Lewiston or Crown Hill seam. All the rooms and entries are driven to the line and the pillars are being drawn. The mine will probably last two years.

It is ventilated by a furnace, which is good. Brewer Smith, superintendent; John Nugent, mine boss.

KANAWHA CANNEL COAL MINES.

These mines are situated on Paint Creek, about 4 miles from the C. & O. R'y. The coal seams at these mines have been on fire since before the late war, and while the mines were in operation the fire broke into the workings from time to time and caused considerable trouble. The mines have been idle for several years.

CHESAPEAKE MINES.

These mines are on Lower Creek, about one mile from the town of Handley on the line of the C. & O. R'y. This mine is operated by the Chesapeake Mining Co. I visited this mine in April, 1891, and found the ventilation very bad. The system on which the mine is being worked is good, the deficiency in the ventilation being due to the fact that they were depending entirely upon natural causes. I insisted that the company put up a good furnace or build a fan. I visited the mine again in June following and found that they had built a fan and the ventilation was very good. The drainage was also good. J. B. Lewis is superintendent; Alex. Thompson, mine boss.

STANDARD COAL & COKE CO.'S MINES.

These mines are opened on Lower Creek, near the Chesapeake mines. The coal is taken to the old Wyoming incline, which is at the upper end of Handley. This mine is operated by the Chesapeake Mining Co. It is a new mine opened late in the spring. J. B. Lewis is superintendent and James Morris mine boss.

WYOMING MINE.

This mine is at the upper end of Handley and was operated by the Standard Company. It is now idle.

KANAWHA MINE.

This mine is one mile above Handley and is operated by the Consolidated Coal Co. The entries and rooms are worked up to the line, the only work now being is drawing of pillars. Charles Trudgen, superintendent; Ed Pinkney, mine boss.

KANAWHA NO. 2.

This mine is at the same place that Kanawha No. 1 is, and it is operated by the Consolidated Mining Co. It is opened in the Coalburg seam, and ventilated by a shaft, no furnace having been built yet. There being only a few miners natural ventilation seems to be sufficient. Ed Pinkney is mine boss and Charles Trudgen superintendent.

KANAWHA NO. 3.

This is a small mine opened in the gas seam near the tipple. This has not been operated very extensively.

UNION NO. 1

is located about one mile west of the town of Montgomery on the line of the C. & O. R'y. This mine is opened in the Gas or Coal Valley seam, and is operated by the Union Coal Co. At all visits during this year I have found this mine in fair condition, notwithstanding the ventilation is natural, the drainage is not good. J. P. Chapman is superintendent and S. P. Johnson mine boss.

UNION NO. 2.

This mine is also operated by the Union Coal Co., and is opened in the Winifrede seam. There are no rooms or entries worked at present, the only work now being robbing. There are only about 12 miners employed, and the ventilation is natural, though very good. The drainage is not very good. S. P. Johnson, mine boss; J. P. Chapman, superintendent.

MOUNT MORRIS.

This mine is a short distance below the town of Montgomery, on Morris creek, and is operated by the Mount Morris Coal Co. The ventilation in this mine is natural and not good. What is known as the Jeffry's entry was driven about 300 feet, single, with rooms turned from both sides, the only means of ventilation being breakthroughs between a part of the rooms, with nothing to conduct the natural current to the face of the workings. Natural ventilation is sufficient in many cases when properly handled. Pat Fry is mine boss; and Samuel Shirgwin, superintendent.

EXCELSIOR.

These mines are located on Morris creek, on a branch line of the C. & O. Ry., and are operated by M. T. Davis & Co. The ventilation was not as good as it should have been. On my last visit I instructed the mine boss to do such things as were necessary to better the condition, which he agreed to do. M. T. Davis is superintendent, and James Morris, mine boss.

BLOCK SEAM NO. 5.

These mines are at Cannelton, opposite the town of Montgomery, and are owned by the Cannelton Coal Co. The ventilation is natural though very good. The drainage is also good, considering that there is quite an amount of surface water to contend with during the rainy season of the year; the water leaks in through surface breaks and if it were not well managed, would flood the entire mine. The mine now is idle. Henry Davis, superintendent, and Thos. Elliott, mine boss.

CANNELTON.

This is the old Cannelton mine and was operated by the Cannelton Co. before the war. It is now abandoned.

NEW MINE.

This mine is located on Smither's creek; the mine is reached by a narrow gauge railroad. It is opened in the No. 5 seam and operated by the Cannelton Coal Co. The ventilation is natural and is good except in one entry, which is driven too far ahead without any break-trough connected with the air course. Henry Davis is superintendent, and William Tamplin, mine boss.

NO. 2 MINE.

This is a new mine opened in the Coal Valley seam, about two miles up Smither's Creek on the line of the Cannelton R'y, and is operated by the Cannelton Coal Co. It has not been in operation but a short time. There are only a few miners employed. Henry Davis is superintendent.

FAYETTE COUNTY MINES.

EUREKA.

This mine is about one and one-half miles up Morris Creek, and is reached by a branch line from the C. & O. R'y. This mine is operated by M. T. Davis & Co., and is worked on the double and single entry systems. It was ventilated by a furnace, which was not sufficient. The ventilation got so bad at one time that the superintendent, Mr. Davis, sent for me, and after an examination, I suggested that there be a fan built at once, which was done, after which the ventilation was very good. M. T. Davis is superintendent, and James Ellis, mine boss.

CARVER'S.

These mines are located on Morris Creek below Eureka, and are operated by Carver Bros. The principal work for some time has been pillar drawing. The new part of the mine is connected with Straughan's mine. The ventilation in this part of the mine is natural, and it seems to be sufficient. On my last visit to this mine the miners were on a strike and I found no one at work. J. H. Tasker is mine boss and A. Carver, superintendent.

STRAUGHAN'S MINE

is located at Montgomery, and is operated by the Straughan Coal Co. There are parts of this mine which have been on a squeeze for some time, which has given considerable trouble. At one time I was obliged to order the miners out temporarily. The main entry was dangerous, and the air ways were so obstructed with falling slate that there were no benefits derived from the furnace, consequently the ventilation was bad. On later visits I found some improvement in the condition as to ventilation and general safety. John Straughan is superintendent.

CRESCENT NO. 1.

These mines are located one mile above Montgomery and are operated by W. R. Johnson. The tail-rope system of haulage has been adopted at this place and has proved to be successful. The coal is hauled several thousand feet at the rate of about one ton per minute. The main rope is ⅝ inch steel, 4,000 ft. long, and the tail rope is ½ inch steel, 8,000 feet long. The ventilation is only fair. The entire work now being robbing or pillar work, the air travel is at times retarded by the falls which interfere with the ventilation. T. A. Bartlam is superintendent and J. H. Perkins mine boss.

CRESCENT NO. 2.

This mine is at Crescent and is operated by Wm. R. Johnson. This is a new mine opened in No. 5 block seam, known as Cannelton block. There is very little covering over this seam, consequently in rainy weather the surface water is troublesome; however, the drainage is well managed and is good. It being only a short distance to the out-crop, natural ventilation is used, which is very good. T. A. Bartlam, superintendent, and David Lindsay, mine boss.

CARVER'S NO. 1 AND 2.

These are the Faulkner mines, and are located about one and one-half miles above the town of Montgomery, on the line of the C. & O. R'y. The place is now known as Edgewater. The ventilation is not as good in these mines as it should be.

EAGLE.

This mine is on the line of the C. & O. R'y, two miles above Coal Valley (or Montgomery), and is operated by Wm. Wyant.

This mine is ventilated by a furnace, which is very good, notwithstanding that the air travels a distance of over four miles from the intake through the workings and the return to the furnace. The mine is in first-class condition in every respect, which is due to good management, taking into consideration the number of old stoppings, &c., to be kept in repair. Wm. Wyant, superintendent, and John C. Bostick, mine boss.

ST. CLAIR.

These mines are located one-eighth of a mile above Eagle on the line of the C. &. O. R'y, and are operated by the St. Clair Co. The mine is worked on the double entry system and ventilated by a furnace. The ventilation is not what it should be; this is due to leakage in the stoppings and falling slate in the air courses. I found on my last visit some of the break-throughs at the heads of the entries through which the air had to pass almost closed with gob and falling slate. This does not leave a sufficient sectional area, which increases the friction at these places and has a tendency to increase the leakage by adding pressure to the leaks. I gave instructions to have the break-throughs cleaned out and the stoppings made as tight as practicable, which the mine boss agreed to do.

DIAMOND.

These mines are just a short distance above Eagle and are operated by Wm. Wyant. This mine is worked on the double entry system and ventilated by a furnace. The ventilation has always been found very good. Wm. Wyant, general manager, and W. P. Walker, mine boss.

MT. CARBON.

This mine is located on Armstrong Creek about five miles from the line of the C. & O. R'y. The mine is reached by a standard gauge railway. This mine is now idle.

MT. CARBON NEW MINE.

This mine is on Armstrong Creek about two miles above the old mine; the railway is extended to it. It is operated by the Mt. Carbon Co., Limited. The mine is opened on a good system. The ventilation at present is natural, though very good; the company will build a furnace soon. The mine is very clear of mud and water and there is no gob or rubbish on the sides of any of the entries. Albert M. Campbell is superintendent and John Lloyd is mine boss.

GREAT KANAWHA.

These mines are located just above the mouth of Armstrong Creek on the line of the C. & O. R'y, and are operated by the Great Kanawha Colliery Co. I never have found the ventilation in this mine good. This is like some other companies, they do not seem to appreciate the advantages of good ventilation. Symington McDonald, superintendent, and John Holmes, mine boss.

MILL CREEK.

These are two small mines located at Hawk's Nest. Are now abandoned.

GAULEY MOUNTAIN.

These mines are located at the head of Mill Creek, which empties into New River at Hawk's Nest. The coal is hauled from the mines by a standard gauge railway about four miles long. The coal is hauled from the mine with a small locomotive. The mine is ventilated by a furnace at present, which is a very good one. The ventilation is very good, excepting at and near the head of No. 1 butt entry. There are two or three rooms turned above the last breakthrough, and the air is not as good in these rooms and at the face of the entry as it should be. Wm. N. Page, superintendent, J. W. Straughan, mine boss.

GAULEY MOUNTAIN NO. 2.

These mines are near No. 1 mine, on the waters of Rich Creek, a tributary of Gauley River. This is a new opening ventilated by a tempory furnace. The ventilation is not as good as it should be. This mine is to be connected with No. 1 mine in a short time and the company intend to put up a fan to ventilate both mines, after which the ventilation will no doubt be good. These mines are opened in the main dividing ridge between Gauley and New Rivers. These mines are operated by the Gauley Mountain Coal Co. Wm. N. Page, superintendent, and John W. Straughan, mine boss.

GAYMONT.

These mines are about one mile east of Hawk's Nest on the line of the C. & O. R'y, and are operated by Joseph Pirrung. These mines have not been in good condition and are not in operation at present.

SUNNY SIDE.

These mines are on the line of the C. & O. R'y, one-half mile east of Gaymont. This mine has always been found in bad condition. As to ventilation, drainage and general safety, there never seemed to be any disposition to comply with the mining law. Edward Thomas, superintendent and mine boss.

ELMO.

This mine is on the line of the C. & O. R'y, about one mile east of Sunny Side, and is operated by the Wm. A. Burke Coal Co. This mine has usually been in bad condition as to ventilation, but on my last visit, June 18th, I found some improvement; still there are some places working that are not sufficiently ventilated. This mine is now under good management and the prospects for better results are very good. J. D. Thomas is superintendent and mine boss.

FAYETTE MINE.

This mine is located at Fayette Station, on the C. & O. Ry., and is operated by the Fayette Coal and Coke Co. There has been considerable complaint regarding the ventilation in this mine, which was justifiable. At one time upon examination I found the mine in bad condition, but on a later visit, June 22nd, I found the ventilation much improved. This however did not seem to satisfy the complaining party as the complaints continued in the shape of anonymous letters. I paid no further attention to those letters after I found that the company were disposed to comply with the requirements of the mining law. There is considerable water in this mine and in some places it is very muddy, which makes it unpleasant to travel on foot; this however is being managed fairly well. John A. Boone, superintendent; and Jas. C. Geissinger, mine boss.

NUTTALLBURG.

These mines are on the line of the C. & O. Ry., east of Fayette Station, and are operated by the Nuttallburg Coal and Coke Co. This mine is worked on the double entry system, and ventilated by a furnace. The mine is under good management and has always been found in good shape. W. H. Holland superintendent, and George H. Holland, mine boss.

KEENEY'S CREEK.

These mines are located one mile east of Nuttallburg, on the line of the C. &. O. Ry., and are operated by the Nuttallburg Coal & Coke Co. This mine is ventilated by a furnace which gives 15,000 cubic feet of air per minute as measured by an anemometer. This mine is also in good condition as to ventilation and drainage. W. H. Holland, superintendent, and Solomon Holland, mine boss.

CAPERTON.

These mines are on the C. & O. Ry., about one mile east of Keeney's creek and are operated by Wm. Beury, Cooper & Co. All the rooms and entries in this mine has been driven to the crop, and the only work now done is robbing. The ventilation is natural and in most of the places it has been found as good as could be expected. Edward Crickmer is superintendent and William Crickmer, mine boss.

NEW RIVER.

These mines are just a short distance east of Caperton and are operated by the New River Coke Co. The ventilation is not as good as it should be. J. H. Ferguson, superintendent, and Thos. Gosney, mine boss..

SEWELL.

These mines are located on Man's Creek, nine miles from Sewell Station. The coal is hauled by means of a narrow gauge railway. The plans on which the mine are worked are very good, and I have always found it in good condition. The name of the town at this mine is Cliff Top, and it is on the old James River and Kanawha Turnpike. It is as clean and neat as any mining town on New River or the Kanawha Valley; pure water and fresh air in abundance. J. A. McGuffin, superintendent, and Wm. Turner, mine boss.

FIRE CREEK.

This mine is on the line of the C. & O. R'y, three miles east of Sewell Depot, and is operated by the Fire Creek Coal & Coke Co. This mine is ventilated by a 15 ft. fan, which gives a splendid current. The mine is under good management and the ventilation is good in all the entries except one known as No. 3¼. The current is weakened by leakage by the time it reaches this entry as it is the last working place on the return. There will be a connection made soon that will make this part of the mine also good. G. H. Caperton, Jr., is superintendent, and David Stoddart, mine boss.

CENTRAL.

This is a new mine compared with Fire Creek and is opened in the same seam. It is located a short distance east of Fire Creek on the line of the C. & O. R'y. This company encountered several bad faults in the start, but are now in first-class coal. Owing to dips, &c., this mine has been difficult to handle; however, the management has been good and most of the difficulties have been overcome. In parts of this mine the ventilation is not good. This is due to the fact that no uniform system can be adopted on account of local dips. J. R. Seal is superintendent, and P. J. Reilly, mine boss.

ECHO NO. 1.

This mine is a short distance east of Central, and is operated by William Beury, Cooper & Co. This mine is in the Fire Creek seam and is ventilated by a ten foot fan, which gives 32,000 cubic feet of air per minute. This is sufficient for 320 men, if properly conducted through the workings of the mine. It seems to be badly managed and does not really benefit the miners. There is no reasonable excuse for a mine to get in this condition and especially where such a quantity of air can be supplied. E. Crickmer is superintendent and William Dower, mine boss.

ECHO NO. 2.

This mine is directly over No. 1 mine, and is opened in the Sewell seam. It is operated by Wm. Beury, Cooper & Co. This mine has no ventilating power at all, and not being adapted to natural ventilation, there is really no ventilation. On my visit, July 9th, I urged the company to build a furnace, as there is no water to supply a boiler to run a fan. This they agreed to do as soon as possible. E. Crickmer is superintendent.

RUSH RUN.

This mine is on the north side of New River, 2½ miles west of River View on a branch line of the C. & O. R'y, which crosses New River at the mouth of Loup Creek, near River View. This mine is operated by the Rush Run Coal & Coke Co., and is ventilated by a furnace which gives 20,000 cubic feet of air per minute. Owing to the location of the furnace, there is a large amount of air wasted by leakage and by the opening of a trap-door on the main haul-way near the furnace. The return should have been independent of the main haul-way and especially so near the furnace. However, the ventilation is fair throughout the entire mine. F. Howald is superintendent and John Eastham, mine boss.

DIMMOCK.

This mine is on New River, a short distance west of River View, on the main line of the C. & O. R'y and is operated by the Dimmock Coal & Coke Co. This mine is worked on the single entry system and ventilated by a furnace. The ventilation, is good now, as none of the single entries are driven but a short distance from the main entry. The furnace gives 8,000 cubic feet per minute on the return, a distance of 700 feet from the furnace. W. H. Thayer is superintendent and D. J. Brunk, mine boss.

THURMOND.

This mine is one and one-half miles west of River View on the north side of New River on a branch of the C. & O. R'y. This mine is ventilated by a furnace which has usually been very good. The coal is mined with an electric machine which is taken into the mine on a truck furnished for that purpose, and run into the face of the room or entry to be undercut. It is then placed on two skids in front of the face of the coal at either side of the room or entry and is fastened firmly by means of a front and rear jack, the former against the face of the coal and the latter against the roof. This prevents the machine from moving while in operation. The machine is started by means of a suitable lever located on a resistance box on the rear end of the motor; the current gradually is turned on by simply passing the lever over an arrangement of five buttons which are connected to the armature of the generator. The cutter bar, which is revolved by an endless chain, is fed forward by means of rack and pinion wheels to a depth of 6 ft. When the full depth has been reached, the feed is thrown off and by means of a reverse lever the bar is withdrawn to its starting point. This completes the cut and the machine is moved over the length of the cutter-bar: viz., 38 inches, and another cut is made in the same manner. This is continued until the entire width of the room is cut, after which the machine is again loaded on the truck and taken to another room. One of these machines can cut about 100 lineal feet in a day, six feet deep. The coal is hauled from the mines with an electric motor weighing aboot 10,000 pounds, which can haul from 10 to 15 mine cars each trip, making about 8 miles per hour. D. E. Llewellyn is superintendent, and George Frazier mine boss.

STONE CLIFF NO. 1.

These mines are located about two miles east of River View, and are operated by the Buery Coal & Coke Co. The length of the main entry in this mine is about one mile. The coal has only been worked out a distance of three or four hundred feet on either side; the principal working places are all about one mile from the entrance and near the main entry, which is driven out into Flat creek ; this gives good natural ventilation. O. C. Kuback is superintendent, and W. G. McDaniel, is mine boss.

TUNNEL MINE

Is in the same seam as No. 1, and is operated by the same company. This mine was opened some time since and abandoned, but has been recently started, and the coal has proved to be very good. It is ventilated by a furnace, which is an excellent one; the ventilation is very good. O. C. Kuback, superintendent, and W. G. McDaniel, mine boss.

STONE CLIFF NO. 2.

This mine is operated by the Beury Coal & Coke Co., and is opened in the Nuttallburg seam, or Upper seam. This mine is ventilated by natural causes; very good. All the mines on New River in this seam are very wet, and it requires good drainage to work them at all. The water in this mine is being well managed, considering that the work is principally pillar drawing, as this usually lets in more water by surface cracks. O. C. Kuback, superintendent, and W. G. McDaniel, mine boss.

BEECHWOOD.

These mines are on the line of the C. & O. Ry., one mile east of Stone Cliff, and are operated by the Beechwood Coal & Coke Co. This mine is ventilated by the furnace of the Keystone Mine. On my last visit, July 15, I found that the natural current had overpowered the furnace and was traveling in a reverse direction. This was partly due to leakage from the Alaska mine, which is connected, and for want of sufficient furnace power. The ventilation in most parts of this mine is very bad. I ordered some of the places stopped until the condition could be improved. C. C. Beury is superintendent, and Wm. Hunter, mine boss.

KEYSTONE.

These mines are opened near Beechwood and are operated by the same company. This mine is ventilated by a furnace, the power of which is insufficient, and the ventilation is very bad. I recommended the use of a fan to ventilate both Beechwood and Keystone. C. C. Beury, superintendent, and Wm. Hunter, mine boss.

ALASKA.

This mine is located on the C. & O. R'y, two miles east of Stone Cliff, and is operated by the Alaska Coal & Coke Co. I have found this mine in very good condition as to ventilation and drainage. George Lawton, superintendent, and W. A. Brown, mine boss.

SLATER.

This mine was opened in 1887 by the Slater Creek Coal & Coke Co., but is now operated by the Sterling Coal & Coke Co. On my last visit to this mine I found it in first-class condition, as to ventilation and drainage. John F. Jones is superintendent and E. J. Robertson, mine boss.

QUINNIMONT.

These are the last mines in Fayette county, one mile east of Prince Station, on the C. & O. R'y, and are operated by the Quinnimont Coal & Iron Co. There has been some very successful applications of rope haulage at this place within the last three years. The ventilation is not as good as it should be in parts of the mine. D. C. Boyce is superintendent and John McIntosh, mine boss.

RALEIGH COUNTY.

ROYAL.

These mines are in Raleigh county, opposite Prince Station and are operated by the Royal Coal & Coke Co. The coal is carried from the mines across New River in Fayette county to the C. & O. R'y, by a wire tram-way. The baskets on the endless rope carry one-half ton each. There are at present 32 baskets on the rope, and in ten hours they will run about 400 tons. The intention is to use 60 baskets. The capacity will then be about 800 tons in ten hours. This is a good seam of coal, ranging from 4½ to 5 feet in thickness. James Kay is superintendent and James Lang, mine boss.

MERCER COUNTY MINES.

RELIANCE MINE NO. 1.

This mine is situated on Simmons Creek, about ¼ mile above the Caswell mine, and is operated by Booth, Bowen & Co. It is ventilated by a 12 ft. fan. There is considerable territory opened. The fan produces a splendid current, but as the air is divided into three or four different currents, there are places in the mine that are not sufficiently ventilated. However, when the new fan at No. 2 is put in (which is to be a 16 ft. fan) the ventilation will no doubt be sufficient. The drainage in this mine is very good. J. P. Bowen, superintendent, and Edward Rowe, mine boss.

RELIANCE NO. 2.

This mine is situated about ⅛ mile above No. 1, and is operated by the same company. This mine is to be ventilated by a 16 ft. fan. The ventilation is not extra good at present as the fan is not yet in operation. The coal is hauled from the first parting to the tipple by a mine locomotive. Edware Rowe, mine boss.

FREEMAN & JONES' MINES.

Hemlock mine is located on Simmons Creek, ½ mile below Caswell and is operated by Freeman & Jones. It is connected with the Caswell mine and is ventilated by the same fan. The main entry is driven about 5,600 feet. The air at the face of the main entry and in several other places in the mine is not very good. This is due to the fact that the fan of the Caswell mine (while it is a very good fan) has too much territory for one fan of that size. Jenkin Jones, superintendent, and William Cook, mine boss.

CASWELL MINE.

This mine is located on Simmons Creek, one mile from the Buckeye mine, and is operated by Freeman & Jones. This mine is ventilated by a 16 ft. fan. Jenkin Jones, superintendent, and Milton Gilmore, mine boss.

ELKHORN MINE.

This mine is on Simmons Creek, a short distance above Caswell, and is operated by Freeman & Jones. This mine is ventilated by a temporary furnace. Jenkin Jones, superintendent, and Milton Gilmore, mine boss.

BUCKEYE NO. 1.

This mine is on the east fork of Simmons Creek, and is operated by Stephenson, Mullins & Co. This mine is temporarily idle.

BUCKEYE NO. 2.

This mine is on the east fork of Simmons Creek, just below No. 1, and is operated by the same company. The ventilation is very good. J. D. Hewitt, superintendent, and Thomas Gent, mine boss.

GOODWILL MINE.

This mine is on Flipping Creek, and is operated by the Goodwill Coal & Coke Co. The ventilation in this mine is not very good, and especially on Bailey's and the middle drift, or main-cross entries.

LOUISVILLE MINE NO. 1.

This mine is located on the west fork of Flipping Creek, about three miles from Bluestone River, and is operated by the Louisville Coal & Coke Co. Ventilation very good. Justice Collins, superintendent, and Wm. Tamplin, mine manager; John Shrader, assistant mine boss.

LOUISVILLE NO. 2.

This mine is on the west fork of Flipping Creek, and is operated by the same company as No. 1. The ventilation is very good. Justice Collins, superintendent, and Wm. Tamplin, mine manager.

MILL CREEK.

This mine is on the west fork of Mill Creek, and is operated by John Cooper & Co. It is connected with the Sterling mine and is ventilated by the fan belonging to that mine. The most of the pillars have been drawn and this mine is about finished. John Cooper is superintendent, and B. Dennen, mine boss.

WEST, OR STERLING.

This mine is opened near the east end of Elkhorn Tunnel, and is operated by John Cooper & Co. The only work now being done in this mine is pillar drawing. It is ventilated by a 16 ft. fan. Ventilation good. B. Dennen, mine boss.

WEST MINE.

This mine is at the east end of the Elkhorn Tunnel, and is operated by John Cooper & Co. On my last visit I found the mine idle, and I made no inspection. John Cooper is superintendent and B. Dennen, mine boss.

EAST MINE.

This mine is located on the east side of Mill Creek, at the east end of the Elkhorn Tunnel, and is operated by John Cooper & Co. This mine is ventilated by the same fan used to ventilate the other mines belonging to Cooper & Co. The ventilation is very good. John Cooper, superintendent, and B. Dennen, mine boss.

COAL DALE.

This mine is situated at the west end of the Elkhorn Tunnel, and near the the division line between Mercer and McDowell counties. It is operated by the Coal Dale Coal & Coke Co. This mine is ventilated by a 20 foot fan, 25 horse power engine. The fan paddles are 5 feet square. The fan is run at 30 revolutions per minute. This is a new mine. The entries are all short, yet the ventilation would be first-class, if proper attention was given the mine. I found two very important trap doors wanting, and consequently the ventilation was not as it should be. John Cooper is superintendent, J. A. Williams, mine boss.

EAST MINE.

This mine is operated by the Pocahontas Coal & Coke Co. This mine is on West Virginia territory, but the business office of the company is in Pocahontas, Va. This company mined 161,600 tons of coal in the year ending June 30th, 1891. All the openings to this mine are in Virginia. C. E. F. Burnley is superintendent, and Henry Reece, mine boss.

McDOWELL COUNTY.

ELKHORN.

These mines are located about two miles below the west end of Elkhorn Tunnel on the Elkhorn River, and are operated by the Elkhorn Coal & Coke Co. This mine is ventilated by a 15 foot fan, run by a 20 horse power engine, 2½ foot pulley on fan shaft and 5 foot pulley on engine. I found the ventilation in this mine very good. A. Barlow is superintendent, and Wm. Moore, mine boss.

SHAMOKIN.

These mines are about one-half mile below Elkhorn mines and are operated by the Shamokin Coal & Coke Co. This mine is ventilated by a 14 foot fan run by a belt, 4 foot pulley on fan shaft and a 4½ foot pulley on engine. The paddles are 4x4 feet running 60 revolutions per minute. The engine is 24 horse power. The ventilation in this mine is very good. John Carmell is mine boss.

NORFOLK.

This mine is on the East fork of Elkhorn, opposite to the Shamokin mine and is operated by the Norfolk Coal & Coke Co. This mine is ventilated by a 16 foot fan. All the improvements about this mine seem to be of a permanent character. The mine in every respect is in good condition. This is among the few places where especial attention is being paid to the ventilation of the mines. In some places there are trap doors in this mine to conduct the air current to the face of the room, and where a room has a second breakthrough the first one is bratticed up, conducting the entire current to the face of the room. This mine is under first-class management. Stuart M. Buck, is superintendent, and J. W. Devenny, mine boss.

LICK BRANCH.

These mines are located one and one-half miles below Norfolk on the line of the Elkhorn extension of the Norfolk & Western R'y and are operated by the Norfolk Coal and Coke Co. This company has built 120 coke ovens. E. J. Hutchinson, superintendent, and Jacob Peffer, mine boss.

TURKEY GAP.

These mines are located one and one-half miles below Lick branch, and are operated by the Turkey Gap Coal & Coke Co. This mine is ventilated by an 18 ft. fan; the fan engine is attached to the fan shaft. The ventilation is very good. There are 55 rooms and 11 entries working. T. B. Dennin is superintendent and James Hopkins, mine boss.

CROZER NO. 1.

This mine is a short distance below Turkey Gap and is operated by the Crozer Coal & Coke Co. This mine is ventilated by a 19 ft. fan. The condition as to ventilation and drainage is very good. J. J. Tierney is superintendent and W. H. Devenny, mine boss.

CROZER No. 2.

This mine is located one-eighth of a mile above No. 1 mine, and is operated by the same company. This mine is ventilated by the same fan as No. 1 and the ventilation is very good. J. J. Tierney, superintendent, and C. A. Devenny, mine boss.

HOUSTON.

These mines are one and one-half miles below Crozer and are operated by the Houston Coal & Coke Co. This mine is ventilated by a 16 ft. fan with engine attached to fan shaft. There is a mine locomotive which runs 2,500 feet in the return air way. The ventilation and drainage are both good. E. T. Houston, general manager, and J. M. McDowell, mine boss.

POWHATAN.

These mines are one mile below Houston and are operated by the Powhatan Coal & Coke Co. This mine was not found in good condition as to ventilation. The fan was built, but no steam power to run it. I gave orders to have the fan put in operation at once. L. E. Tierney, superintendent, and James Hetherman, mine boss.

LYNCHBURG.

These mines are about one mile below Powhatan on Elkhorn River, and are operated by the Lynchburg Coal & Coke Co. This company begun operation about June 1, 1891, and no inspection was made in this year. Wm. Hetherman, mine boss.

UPLAND.

These mines are on the Elkhorn, opposite to the Houston mines, and are operated by the Upland Coal & Coke Co. These mines have just been opened and will begin to ship coal about September. The tipple is about completed and 24 houses have been built. The height of the coal seam here is about 8 feet 3 inches. E. B. Wilson, general manager, J. W. Flamer, mine boss.

ALGOMA.

This mine is located one mile below Lynchburg on Elkhorn River, and is operated by the Algoma Coal & Coke Co. The average heigh- of the seam is 6½ feet. They will begin shipping coal about November 1, 1891. Wm. H. Thomas, superintendent.

GILLIAM.

This mine is on the North fork of Elkhorn one mile from Algoma, and is operated be the Gilliam Coal and Coke Co. These mines are just opened, the entries are driven in about 500 feet. There is a tram road from the mines to the tipple, which is finished; it is about 2,400 feet long, and one tipple is built. The branch R. R. to these mines is under construction. This company will probably ship coal about December. W. C. Brooke, superintendent, and John Woolcock, mine boss.

KEYSTONE.

This mine is on Elkhorn, one mile below Algoma, and is operated by the Keystone Coal & Coke Co. This company will not be ready to ship before next spring. J. K. F. Steele, secretary.

EMPIRE.

This mine is located at the mouth of Elkhorn River, about four miles from Keystone, and is opened by the Empire Coal & Coke Co. This company will begin to ship coal in the spring of 1892. William D. Ord, is superintendent, and John Jacobs, mine boss.

STATISTICAL INFORMATION.

Following are Analyses of the Coals Mined from the Different seams in the Second District of West Virginia.*

Name of Seam.	Fixed Carbon.	Volatile Matter.	Water.	Sulphur.	Ash.	Name of Operator.
Acme	55.563	39.225	1.797	0.71	3.415	Stevens Coal Co.
Black Band	57.48	38.58	2.21	....	1.70	Black Band Coal and Iron Co.
Blacksburg	56.75	41.17	1.23	....	.85	Cedar Grove Mining Co.
Cedar Grove	61.27	36.83	....	....	1.90	Cedar Grove Mining Co.
Coalburgh	62.00	32.50	4.00	....	1.50	Robinson Coal Co.
Crown Hill	62.61	33.26	2.14	.18	1.81	Crown Hill Splint Coal Co.
Coal Valley or Gas	61.75	34.91	0.94	.16	2.40	Mt. Carbon Co. Limited.
New River	74.04	23.20	.83	.50	1.43	All of New River Operators.
Pocahontas	74.256	18.812	1.011	.730	5.191	Mercer and McDowell Counties.

*NOTE—The Analysis for New River Coal is an average taken from the reports furnished me by the several operators.

Analyses of Coke made of West Virginia Coal Compared with that of other Coking Districts.

Name of District.	Fixed Carbon.	Volatile Matter.	Water.	Sulphur.	Ash.
Chattanooga	80.513	1.101	0.447	1.595	16.344
Bermingham	87.299	0.803	0.157	1.195	10.545
Connelsville	88.962	0.425	0.060	.810	9.740
New River	92.608	0.214	0.500	.500	6.188
Pocahontas	92.550	0.757	0.347	.597	5.749

Table Showing Location of Collieries in the Second District of West Virginia.

Name of Colliery.	Name of Operator.	Name of Superintendent.	Location—County.	Post Office Address.
Flint Hill Mine	New Haven Coal & Mining Co	E. D. Roush	Mason	New Haven.
Hartford City Mine	Hartford City Salt Co.	T. E. Jones		Hartford City.
California Mine	Juhling Coal Co	Wm. Juhling		Hartford City.
Liverpool Mine	Liverpool Salt & Coal Co	Charles Clifton		Hartford City.
Pierce Bros. & Co.	Pierce Bros	J. F. Pierce		Hartford City.
Hope Salt & Coal Co.	Hope Salt & Coal Co	Edward Edwards		Mason.
Sterling Mine	Edwards & Young	W. E. Edwards		Clifton.
Camden Mines	Consumers' Coal & Mining Co	H. E. Spilman		Spilman.
Clifton Mine				
Plymouth Mine	Carver Coal Co	Jas. Carver	Putnam	Plymouth.
Bancroft Mine		Thos. Bancroft		Lock Eight.
Queen City Mine		C. W. Harper		Queen City.
Florence Mine	Marmet Mining Co	G. W. Guysi		Raymond City.
Black Mining & M'f'g Co	Blackband Mining & M'f'g Co	A. M. Wooldridge	Kanawha	Spring Hill.
Campbell's Creek Coal Co	Campbell's Creek Coal Co	J. E. Dana		Malden.
Pioneer	Pioneer Coal Co	J. J. Lovell		Malden.
Straughan Mining Co	Straughan Mining Co	W. H. Straughan		Malden.
Dickinson's	J. Q. Dickinson & Co	J. Q. Dickinson		Malden.
Winifrede, Nos 1, 2, 3, 4, 5, 6	Winifrede Coal Co	R. B. Cassady		Winifrede.
Black Diamond	Peel Splint Coal Co	R. P. Gilham		Lewiston.
Lewiston Coal Works	Lewiston Coal Co	M. Beane		Lewiston.
Black Peerless	Black Peerless Coal Co	C. B. Smith		Lewiston.
Peerless	Peerless Coal Co	S. W. Bard		Peerless.
Stevens, Acme & Keystone	Stevens Coal Co.	F. L. Garrison		Coalburg.
Coalburg	Robinson Coal Co			Coalburg.
Peabody	Peabody Coal Co	J. A. Carter		Shrewsburg.
Monarch	Monarch Coal Co	J. D. Harris		Peabody.
Cedar Grove Nos. 1 and 2	Cedar Grove Mining Co	J. G. W. Tompkins		Cedar Grove.
Kelley's Creek	Kelley's Creek Coal & Coke Co	Joseph Pirrung		Cedar Grove.
Eastbank				Eastbank.
Chestnut Point	Eastbank Coal & Coke Co.	J. W. Wilson		Eastbank.
Blacksburg				Eastbank.
Belmont Nos. 1 and 2	Belmont Coal Co			Crown Hill.
Crown Hill Nos. 1, 2 and 3	Crown Hill Splint Coal Co	Brewer Smith		Crown Hill.
Chesapeake		J. B Lewis		Handley.
Standard				Handley.
Upper Creek				Handley.
Kanawha Nos. 1, 2 and 3	Consolidated Mining Co.			Union Mines.
Union Nos. 1 and 2	Union Coal Co.	J. P. Chapman		Union Mines.
Mt. Morris	Mt. Morris Coal Co	Samuel Chirgwin		Union Mines.
Eureka	M. T. Davis & Co	M. T. Davis	Fayette	Montgomery.
Excelsior	M. T. Davis & Co	M. T. Davis		Montgomery.

Table Showing Location of Collieries, &c.—Continued.

Name of Colliery.	Name of Operator.	Name of Superintendent.	Location—County.	Post Office Address.
Cannelton, Nos. 1, 2, 3	Cannelton Coal Co	Henry Davis	Kanawha	Cannelton.
Carver's	Carver Bros	Aaron Carver	Fayette	Montgomery.
Straughan's	Straughan Coal Co			Montgomery.
Crescent	W. R. Johnson	F. A. Bartham		Crescent.
Faulkner's	Carver Bros			
Eagle	Wyant Coal & Coke Co	Wm. Wyant		Eagle.
St. Clair	The St. Clair Co			Eagle.
Diamond	Wyant Coal & Coke Co	Wm. Wyant		Eagle.
Mt. Carbon	The Mt. Carbon Co., Lt'd	Albert M. Campbell		Powelton.
Great Kanawha	The Great Kanawha Colliery Co	Symington McDonald		Mount Carbon.
Mill Creek				Hawk's Nest.
Ansted Mines	The Gauley Mountain Coal Co	William N. Page		Ansted.
Gaymont				Hawk's Nest.
Sunny Side	Thomas Coke Co	Edward Thomas		Hawk's Nest.
Elmo	W. A. Burke Coal Co	J. D. Thomas		Elmo.
Fayette	Fayette Coal & Coke Co	John A. Boone		Fayette Station.
Nuttalburg	Nuttalburg Coal & Coke Co	W. H. Holland		Nuttalburg.
Keeney's Creek	Nuttalburg Coal & Coke Co	W. H. Holland		Nuttalburg.
Caperton	William Beury, Cooper & Co	Edward Crickmer		Caperton.
New River	New River Coke Co	J. H. Ferguson		Caperton.
Sewell	Longdale Coal & Iron Co	J. A. McGuffin		Sewell Depot.
Fire Creek	Fire Creek Coal & Coke Co			Fire Creek.
Central	Central Coal Co	J. R. Seal		Fire Creek.
Echo	William Beury, Cooper & Co			
Stone Cliff	Beury Coal & Coke Co	O. C. Kuback		Stone Cliff.
Beechwood & Keystone	Beechwood Coal & Coke Co	C. C. Beury		Claremont.
Alaska	Alaska Coal & Coke Co	Geo. Lawson		Claremont.
Slater	Sterling Coal & Coke Co	Jno. F. Jones		Coit.
Dimmock	Dimmock Coal & Coke Co	W. H. Thayer		Beury.
Rush Run	Rush Run Coal & Coke Co	F. Howald		Rush Run.
Thurmond				
Royal	Royal Coal & Coke Co		Raleigh	Prince, F'y'te co. W. Va.
Quinnimont	Quinnimont Coal & Iron Co	D. C. Boyce	Fayette	Quinnimont.
Reliance	Booth Bowen Coal & Coke Co	Jas. Booth	Mercer	Freeman's.
Hemlock	Freeman & Jones	John Freeman		Freeman's.
Caswell	Freeman & Jones	John Freeman		Freeman's.
Elkhorn	Freeman & Jones	John Freeman		Freeman's.
Buckeye	Buckeye Coal & Coke Co	J. D. Hewitt		Freeman's.
Goodwill	Rob't. Goodwill & Co	Phillip Goodwill		Flipping.
Louisville	Louisville Coal & Coke Co	Justus Collins		Flipping.
Mill Creek	John Cooper & Co	John Cooper		Cooper's.
Coal Dale	Coal Dale Coal & Coke Co	J. A. Williams		Coal Dale.

Table Showing Location of Collieries, &c.—Continued.

Name of Colliery.	Name of Operator.	Name of Superintendent.	Location—County.	Post Office Address.
Barlow's	Elkhorn Coal & Coke Co	A. Barlow	McDowell	May Beury.
Shamokin	Shamokin Coal & Coke Co.			May Beury.
Norfolk	Norfolk Coal & Coke Co	Stuart M. Buck		May Beury.
Lick Branch	Norfolk Coal & Coke Co	E. J. Hutchinson		May Beury.
Turkey Gap	Turkey Gap Coal & Coke Co	T. B. Dennen		Ennis.
Crozer	Crozer Coal & Coke Co	J. J. Tierney		Elkhorn.
Houston	Houston Coal & Coke Co	T. E. Houston		Elkhorn.
Powhatan	Powhatan Coal & Coke Co	J. J. Tierney		Elkhorn.
Lynchburg	Lynchburg Coal & Coke Co.	L. E. Tierney		Kyle.
Upland	Upland Coal & Coke Co			
Algoma	Algoma C. & C. Co			
Gilliam	Gilliam C. & C. Co.	W. C. Brooke	McDowell	Algoma.
Keystone	Keystone C. & C. Co			
Empire	Empire C. & C. Co.			
Pocahontas. W. Va. Mine	South Western Virginia Improvement Co			Pocahontas, Va.

Table Showing Number of Employes, &c., of Collieries in the Second District of West Virginia.

Name of Colliery.	No. Employes.				Kind of Mine.	Mode of Ventilation.	Coal.			No. of Coke Ovens Completed.
	Inside Mine.	Outside Mine.	At coke ovens.	Total.			Seam Worked.	Thickness.	Kind.	
Flint Hill					Slope	Furnace.	Pittsburgh.	4 ft. 6 in.	Bituminous.	
Hartford City	23	4		27	Slope	Furnace.	Pittsburgh.	4 ft. 6 in.	Bituminous.	
California	50	7		57	Drift.	Furnace.	Pittsburgh.	4 ft. 8 in.	Bituminous.	
Liverpool					Drift.	Natural.	Pittsburgh.		Bituminous.	
Pierce Bros	16	1		17	Drift.	Furnace.	Pittsburgh.	5 ft.	Bituminous.	
Hope Salt and Coal Co.	19	2		21	Drift.	Natural.	Pittsburgh.	4 ft. 8 in.	Bituminous.	
Sterling					Drift.	Furnace.	Pittsburgh.	4 ft. 8 in.	Bituminous.	
Camden	71	18		89	Drift.	Furnace.	Pittsburgh.	4 ft. 6 in.	Bituminous.	
Clifton					Drift.	Natural.	Pittsburgh.	4 ft. 6 in.	Bituminous.	
Plymouth	63	9		72	Drift.	Furnace.	Raymond City.	5 ft. 6 in.	Splint.	
Bancroft	24	3		27	Drift.	Furnace.	Pittsburgh.	5 ft.	Splint.	
Queen City					Drift.		Pittsburgh.	5 ft.	Splint.	
Florence	250	75		325	Drift.	Furnace.	Raymond City.	5 ft. 6 in.	Splint.	
Black Band No. 1 and 2					Drift.	Furnace.		3 ft.	Block.	
Campbell Creek, 1, 2 and 3	261	68		329	Drift.	Furnace.	Campbells Creek.	4 ft.	Splint.	
Pioneer 1 and 2	92	16		108	Slope	Fan.	Campbells Creek.	4 ft.	Splint.	
George's Creek	23	5		28	Drift.	Furnace.	Campbells Creek.	4 ft. 6in.	Splint.	
Dickinsons					Drift.	Natural.	Campbells Creek.		Splint.	
Winifrede 1, 2, 3, 4, 5 and 6.	375	60		435	Drift.	Furnace.	Winifrede.	5 ft.	Bituminous.	
Peel Splint C. Co					Drift.	Furnace.	Black Diamond.	4 ft.	Splint.	
Lewiston C. Co.	34	3		37	Drift.	Furnace.	Lewiston or Peerless.	2 ft. 8 in.	Gas.	
Black Peerless					Drift.	Furnace.	Lewiston or Peerless.	2 ft. 8 in.	Gas.	
Peerless					Drift.	Fan.	Peerless.	2 ft. 10 in.	Gas.	
Stevens C. Co., 1, 2, 3.	216	78		294	Drift.	Furnace.	Winifrede.	Ncs. 1.2 4½ ft,3,5½ ft	1&2. h'd b't, 3 s't b't.	
Robinson C. Co.					Drift.	Fan. and Nat.	Coalburgh.	4 ft. 1 in.	Splint.	
Peabody	44	16		60	Drift.	Natural.	Top or Big Seam.	6 ft. 6 in.	Splint.	
Monarch, 1 and 2	35	10		45	Drift.	Natural.	Cedar Grove.	3 ft.	Gas.	
Cedar Grove, 1, 2	120	20		140	Drift.	Fans.	No. 1.C. G., No.2. P'erless	No. 1, 3 ft, No. 2, 4 ft.	Gas.	
Kelleys Creek	50	3		53	Drift.	Furnace.	Cedar Grove.	3 ft.	Gas.	
Eastbank					Drift.	Furnace.	Coalburgh.	4 ft. 2 in.	Splint.	
Chestnut Point	35	2	5	42	Drift.	Furnace.	Cedar Grove.	3 ft.	Gas.	12
Blacksburg					Drift.					
Belmont, 1 and 2	101	16		117	Drift.	Furnace.	Lewiston.	4 ft. 6 in.	Splint.	
Crown Hill, 1, 2 and 3.	78	18		96	Drift.	Furnace.	Crown Hill.	4 ft.	Splint.	
Chesapeake	90	20		110	Drift.	Fan.	Kanawha.	5 ft. 6 in.	Splint.	
Standard	60	10		70	Drift.	Natural.	Coal Valley.	4 ft.	Gas.	
Upper Creek					Drift.					
Kanawha Mining Co., 1, 2 and 3					Drift.	Furnace.	Winifrede & Coalburgh.	4 ft.		

Table Showing Number of Employes, &c.—Continued.

Name of Colliery.	No. of Employes.				Kind of Mine.	Mode of Ventilation.	Coal.			No. of Coke Ovens Completed.
	Inside Mine.	Outside Mine.	At Coke Ovens.	Total.			Seam Worked.	Thickness.	Kind.	
Union, No. 1 & 2	85	9		94	Drift.	Natural.	Coal Valley.	5 ft. 6 in.	Soft-Bituminous.	
Mt. Morris					Drift.	Natural.	Winifrede.	5 ft.	Splint.	
Eureka	70	5		75	Drift.	Fan.	Coal Valley.	5 ft. 6 in.	Gas.	
Excelsior	25	4		29		Furnace.	Coal Valley.	3 ft.	Gas.	
Cannelton, 1, 2, 3	108	80		188	Drift.	Natural.	No. 1, No. 5; No. 2 cannel	No. 1, 5½ ft.; 2 3½ ft.	No. 1, splint; 2, can'l	
Carver's.					Drift.	Furnace.	Coal Valley.	5 ft. 2 in.	Gas.	
Straughan's					Drift.	Furnace.	Coal Valley.	5 ft.	Gas.	
Crescent, 1, 2,	144	24	24	192	Drift.	Furnace.	No. 1, Coal V'ley; No. 2, 5	No. 1, 4ft. 8 in; 2, 5ft. 8	No. 1, gas; 2, splint.	62
Faulkners, 1, 2					Drift.	Furnace.	Coal Valley and Eagle.		Gas, steam & coke.	
Eagle.	85	6	24	115	Drift.	Furnace.	Eagle.	5 ft.	Bituminous coking.	54
St. Clair, 1, 2.					Drift.	Furnace.	Eagle.	5 ft.	Steam and coke.	
Diamond..	75	5		80	Drift.	Furnace		5 ft.	Gas and fuel.	
Mt. Carbon, 1, 2.	145	10	75	230	Drift.	Fur. and Nat.	Powellton.	5 ft. 6 in.	Gas and coking.	202
Great Kanawha	87	12	45	144	Drift.	Furnace.	Coal Valley.	4 ft. 8 in.	Gas.	
Mill Creek					Drift.	Fur. and Nat.	Sewell.		Semi-Bituminous.	
Ansted, No. 1, 2	90	12		102	Drift.	Furnace.	Gauley Mountain.	9 to 14 ft.	Soft coking.	
Gaymont					Drift.	Furnace.	Sewell.	3 ft.	Semi-Bituminous.	
Sunny Side					Drift.	Fur. and Nat.	Sewell.	3 ft.	Semi-Bituminous.	
Elmo	45	8		53	Drift.	Furnace.	Nuttall Seam.	3 ft.	Bituminous.	
Fayette	100	9	4	113	Drift.	Furnace.	Caperton.	3 ft. 6 in.	Red ash.	12
Nuttalburg	138	18	27	183	Drift.	2 furnaces.	Nuttall.	3 ft.	Semi-Bituminous.	66
Keeney's Creek	104	12		116	Drift.	Furnace.	Nuttall.	3 ft.	Semi-Bituminous	
Caperton	50	6		56	Drift.	Natural.	Sewell.	4 ft.	Steam.	
New River	101	9	37	147	Drift.	Furnace.	Sewell.	3 ft. 8 in.	Red ash.	147
Sewell.	70	25	40	135	Drift.	Furnace.	Sewell.	3 ft. 10 in.	Bituminous coking.	150
Fire Creek					Drift.	Fan.	Fire Creek.	3 ft.	Semi-Bituminous.	
Central	95	4		99	Drift.	Furnace.	Fire Creek.	4 ft.	Bituminous.	
Echo No. 1, 2					Drift.	1, Fan, 2, Nat.	No. 1. Fire Creek; 2 Sew'l			
Stone Cliff, 1, 2	170	14	13	197	Drift.	1, Fur, 2, Nat.	Sewell—Quinnimont.	4 ft. 6 in.; —3 ft. 6 in.	Semi-Bituminous	60
Beechwood }	150	10	6	166	Drift.	Furnace.	Quinnimont.	3 ft. 6 in.	Bituminous.	21
Keystone }							Quinnimont.			
Alaska	95	8		103	Drift.	Furnace.	Fire Creek.	3 ft. 6 in.	Bituminous.	
Slater.	50	10		60	Drift.	Furnace.	Quinnimont.	3 ft. 6 in.	Red ash.	
Dimmock	34	3		37		Furnace.	Quinnimont.	3 ft. 6 in.	Red ash.	
Rush Run	120	19		139		Furnace.	Fire Creek.	3½ to 6 ft.	Semi-Bituminous.	
Thurmond, 1, 2						Furnace.				
Royal										
Quinnimont, 1, 2	110	10	33	153	Drift.	Natural.	Quinnimont.	3 ft.	Red ash.	99

Table Showing Number of Employes, &c.—Continued.

Name of Colliery.	No. Employes.				Kind of Mine.	Mode of Ventilation.	Coal.			No. of Coke Ovens Completed.
	Inside Mine.	Outside Mine.	At Coke Ovens.	Total.			Seam Worked.	Thickness.	Kind.	
Reliance, 1, 2	188	15	35	238	Drift.	Fan.	No. 3.	7 ft.	Bituminous.	91
Hemlock Caswell Elkhorn	275	25	35	335	Drift.	Fans.	No. 3.	7 ft.	Bituminous.	142
Buckeye, 1, 2	183	20	24	227	Drift.	Fan.	No. 3.	5 ft. 6 in.	Bituminous.	100
Goodwill	100	12	20	132	Drift.	Furnace.	No. 3.	5 ft.	Bituminous.	50
Louisville, 1, 2	100	12	13	125	Drift.	Fan.	No. 3.	5 ft.	Bituminous.	75
Mill Creek, 1, 2	340	70	115	525	Drift.	Fan.	Flat Top.	9 ft. 6 in.	Bituminous.	150
Coal Dale					Drift.	Fan.	Flat Top.			
Barlow's	130	20	30	180	Drift.	Fan.	Flat Top.	8 ft.	Semi-Bituminous.	100
Shamokin					Drift.	Fan.	Flat Top.			
Norfolk	81	10	25	116	Drift.	Fan.	Pocahontas.	8 ft.	Bituminous.	100
Lick Branch	87	9	25	121	Drift.	Fan.	No. 3.	8 ft. 6 in.	Semi-Bituminous.	120
Turkey Gap	149	16	66	231	Drift.	Fan.	Flat Top.	8 ft.	Semi-Bituminous.	130
Crozer, 1, 2	228	21	119	368	Drift.	Fan.	Pocahontas.	8 ft. 6 in.	Semi-Bituminous.	216
Houston	112	12	35	159	Drift.	Fan.	Pocahontas.	8 ft.	Semi-Bituminous.	100
Powhatan					Drift.	Fan.	Pocahontas.			
Lynchburg	48	10	12	70			Pocahontas.	7 ft.	Semi-Bituminous.	100
Upland C. C. Co										
Algoma										
Gilliam C. & C. Co	5	40		45			Pocahontas.	6 ft. 10 in.	Semi-Bituminous.	
Keystone C. & C. Co										
Empire										
Pocahontas, W. Va., Mine										

Table Showing Number of Tons of Coal for each Fatal and Non-Fatal Accident in the Second District of West Virginia for the year ending June 30, 1891.

County.	No. of Tons of Coal for each Fatal Accident.	No. of Tons of Coal for each Non-Fatal Accident,
Mason	58,299	116.598
Putnam.	No fatal accidents	156.856
Kanawha	604.693	93.030
Fayette	434.404	115.841
Mercer	151,340	151.340
McDowell	117,479	88,110
Total	1,523 071	721,775

Table Showing Average Number of months Worked and Average earnings of Miners per month in the Second District of West Virginia for the year ending June 30, 1891.

Counties.	Average No. Months Worked.	Average earning of Miners per Month.
Mason	11	$37.29
Putnam	9	41.17
Kanawha	10¾	39.11
Fayette	11	36.91
Mercer	10½	38.25
McDowell	10¾	42.75
Average in District	10½	$39.24⅗

Production of Coal and Coke in Tons of 2,240 each.

County.	From July 1, 1890 to July 1, 1891.		No. of Mines		No. of Coke Ovens.		No. of Employes.			
	Coal.	Coke.	Open	Opening.	Complete.	Building.	Inside Mine.	Outside Mine.	Making Coke.	Total
Mason	116.598	....	9	....	....	....	177	87	....	264
Putnam	156.853	....	4	....	....	....	272	152	....	424
Kanawha	1,209,383	5,637	48	1	12	....	2,255	450	6	2.710
Fayette	1,737.617	326,984	42	....	1,158	120	3,043	332	281	3,656
Mercer	1,210.723	251.780	13	....	7.4	....	1,473	210	421	2,104
McDowell	704,871	336,250	20	5	963	402	1,010	109	348	1,497
Total	5,136.051	923,660	133	6	2.910	522	8,260	1,340	1,055	10,65

GLOSSARY OF TECHNICAL MINING TERMS.

After Damp: A mixture of gases resulting from an explosion of fire damp.

Air-shaft: A shaft for ventilating purposes.

Air-way: A passage or traveling way for an air current.

Anemometer: An instrument used to measure the velocity of air currents.

Basin: A local depression in the coal seam.

Black Damp: Carbonic acid gas (Symbol, C. O. 2).

Blower: A discharge of fire damp from a crevice.

Bone Coal: A hard slaty coal.

Brattice: A board or cloth partition dividing a mine passage into two separate air-ways for conducting the air current nearer the working faces.

Break-through: An opening through a pillar for the passage of air.

Bridel Chains: Safety chains to support a cage if the middle chains break; the chains by which a monitor is attached to the rope.

Butty or Buddy: A partner working with any one in a mine.

Cage: A platform on which persons or cars are hoisted and lowered in a shaft or on a slope.

Caps, or Cap Pieces: Thin pieces of wood that are wedged in between the top of a prop and the roof.

Cap: A pale blueish top on the flame of a lamp, indicating the presence of fire damp.

Chain Pillar: A pillar between two parallel entries, which is cut through at intervals for air.

Clinometer: An instrument used for measuring the dip of a seam or its angle of inclination from a horizontal plane.

Coal Measure: The geological formation in which coal is interstratified.

Collar: A horizontal timber with its ends resting on two props for the support of the roof.

Cradle Dump: A tipple which dumps cars with a rocking motion.

Crup: A gradual settling down of the measures over lying a mine caused by the weight crushing the pillars, or forcing them down into the floor.

Crib: A structure composed of timbers laid one upon another for supporting the roof of a mine.

Crop-full: A cave in from the surface caused by mining operations.

Crop: The intersection of the stratum with the surface.

*Cross-cut:*A break through between two entries or rooms.

Davy Lamp: A safety lamp invented by Sir Humphrey Davy.

Dead work: Work that does not produce enough to pay its cost.

Dip: The angle at which a stratum inclines from a horizontal plane.

Door: See trap door.

Down Cast: A shaft through which the ventilating current enters a mine.

Draw Slate: A soft slate from two inches to two feet in thickness, which falls with the coal or soon after the coal is removed.

Drift. A tunnel that is level or nearly so, driven in the coal seam from the surface or out crop; a mine worked through a drift.

Driving: Excavating in an entry or air course. Any kind of narrow work. Hauling coal.

Drum: A cylinder on which the rope is wound in hoisting in a shaft or slope, or in lowering cars on an incline plane.

Dump: A frame for unloading cars by tipping them up. A pile of refuse taken out of a mine.

Entry: A narrow under-ground haul way driven in the coal seam.

Face: The end of any room entry, or air-way at which the coal is excavated.

Fault: A break or want of continuity in a stratum.

Feeder: A small blower of gas in a mine.

Fire Boss: A person whose duty it is to examine the workings of a mine for accumulation of explosive gas.

Fire Damp: Light carburetted hydrogen gas (Symbol C. H. 4.) Explosive when mixed with air in certain proportions.

Furnace: A brick or stone fire place at the bottom of a shaft or stack for producing a draught by heating and rarifying the air.

Furnace Stack: A chimney built over a furnace for increasing the draught.

Gas: Fire damp.

Gob: A worked out space in a mine and the refuse left therein

Guides: Timbers fastened vertically in a hoisting shaft to guide the cage.

Head Frame: The structure over a hoisting shaft to hold the shelves.

Heading: A term sometimes applied to an entry or any kind of narrow work.

Heave: A rising up of the floor of a mine caused by its being too soft to resist the weight on the pillars.

Horse-back: A part of the roof or floor projecting into the coal.

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Incline: A self-acting inclined plane on which coal is lowered by gravity.

Intake: A passage or opening by which the ventilating current enters a mine.

Keeps: Supports to hold a cage when it is at rest.

Knuckle: The top of an incline where the grade suddenly becomes very steep.

Kettle Bottom: A piece of slate that drops out of a polished cavity in the roof of a mine, and is very dangerous on account of the the suddenness with which it loosens and falls without giving any warning.

Lagging: The planks, slabs or poles on the outside of the timbering in an entry or mine passage to prevent pieces of the roof or sides from falling through.

Longwall: A method of working out coal and leaving no pillars but supporling the roof with pack-walls, gob, &c.

Monitor: A car used to lower coal on a gravity incline.

Narrow Work: Entries, air-ways, cross-cuts, &c.

Needle: A long, pointed iron rod which is placed in a drill hole while a charge is being tamped to leave, on its being withdrawn, an opening through which the charge can be fired with a squib.

Outcrop: See "crop."

Outlet: An opening from a mine to the surface.

Output: The product of a mine; the quantity of coal mined.

Over-cast: A passage by which air is conducted over another airway or entry.

Pack-wall: A wall built of gob to support the roof.

Parting: A layer of slate or other matter dividing the coal seam; a switch or turnout from the main track.

Pillar: Coal left in mining to support the roof.

Plane: See "Suction."

Prop: A timber set upright to support the roof.

Rachet Drill: A drill used for boring slate or rock.

Regulator: A sliding door used to regulate the volume of air passing through any part of a mine.

Rib: The side of a pillar in an entry room or any working place.

Rob: To take out the pillars.

Roll: See "Horseback."

Room: A working place turned off an entry.

Safety Lamp: A lamp with the flame inclosed with a wire gauze to prevent its being in contact with inflamable gas.

Scraper: A tool used to scrape material out of a drill hole.

Screen: A grate or seive over which coal is dumped, separating it into different grades according to size.

Seam: A stratum of coal or other material.

Shaft: A vertical passage or opening from the surface to the mine.

Shot: A blast.

Siphon: A tube used for draining a mine.

Slack: Small coal and dust.

Slope: An incline entrance to a mine.

Split: A division of an air current.

Spray: A stick used to lock the wheels of a mine car.

Squeeze: A settling of the roof.

Stopping: A slate wall or board partition built across a break-through to stop the air current from passing through.

Stratum: A layer of coal-rock or other material.

Stump: A small pillar of coal.

Lump: An excavation made in the floor of a mine to collect the water in a body.

Swamp: A low wet place in a mine.

Tamping-bar: A bar of iron used to fill up a drill hole in preparing a blast.

Tipple: A dump; a place where cars are dumped.

Trapper: A person, usually a boy, who tends a door in a mine.

Trouble: An irregularity in the coal seam.

Up-cast: An opening through which the air current ascends out of a mine; a furnace stack.

Water-box: A box mounted on wheels for hauling water.

Water Gauge: An instrument for determining the ventilating pressure in a mine.

White Damp: Carbonic oxide (Symbol C. O.) A poisonous gas resulting from fires in mines and sometimes from blasts.

COMPARATIVE STATISTICS

Concerning the Coal and Coke Production of the Entire State from 1880 to 1891, Inclusive.

Statistics of West Virginia Coal Production, 1880 *to* 1891.

YEARS.	Inside Miners.	Outside Laborers.	Total Production. Ton 2,240 lbs.	Percentage of Increase.	Average Annual Increase.
1880	2.553	1,173	1,253,579	....	Average annual percentage of increase from 1881 to 1891, 18.16.
1881	3,063	1,407	1,610,700	28.48	
1882	3,573	1,641	2,158,000	33.90	
1883	4,438	1,956	2,805,566	30.00	
1884	4,627	1,724	2,901,642	3.40	
1885	5,486	1,806	3.008.091	3.60	
1886	6.081	1.181	3,213,093	6.80	
1887	7,023	1,582	4,407,875	37.18	
1888	7,269	1,705	4,799,611	8.89	
1889	7,764	1,882	4,826,047	0.55	
1890	9,173	2,324	5,359,000	11.04	
1891	10,434	2,589	7,281,430	35.87	

Statistics of the Manufacture of Coke, 1880 *to* 1891.

YEARS.	No. of Ovens.	Ovens Building.	Coal Used.	Coke Produced.	Total Value of Coke at Ovens.	Value of Coke at Ovens per Ton.	Per cent. of Yield of Coal in Coke.
1880	631	40	206,034	121,715	$318,797	$2.30	60.0
1881	689	189	272,163	164,058	429,571	2.30	61.0
1882	878	84	321,625	202.103	520,437	2.26	63.0
1883	962	43	360,664	225,893	563,490	2.19	63.0
1884	1,005	127	385,588	228,472	425,952	1.91	62.0
1885	1.078	63	415.533	260,571	485,188	1.86	63.0
1886	1,154	317	425,002	264,168	513,843	1.94	62.0
1887	2,080	442	698,327	442,031	976,732	2.21	63.3
1888	2,137	68	786,139	499,985	....	....	63.6
1889	2,453	142	562,739	360,716	....	....	64.1
1890	3,442	184	1,377,299	892,490	....	....	64.8
1891	4,117	777	1,899,122	1,238,418	....	....	65.21

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STATE INSPECTOR OF MINES

FOR THE

FIRST AND SECOND DISTRICTS

OF THE

STATE OF WEST VIRGINIA.

For the Year Ending June 30, 1893.

113

CHARLESTON:
Moses W. Donnally, Public Printer
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REPORT OF MINE INSPECTOR,

FIRST DISTRICT.

To His Excellency, WILLIAM A. McCORKLE,

Governor of West Virginia:

SIR: I have the honor to present herewith for your consideration my annual report for the year ending June 30, 1893. As required by law, I have visited every mine in the First District during the year. Those of the mines in operation during the entire year have all been visited twice, and some which have demanded more attention, I have visited three times. A few small mines, which were not in operation, have been visited but once. The condition of all these mines was carefully inspected, and nearly all of them found to be in good condition, the operators complying with the requirements of the law and manifesting a disposition to do whatever was necessary or desirable to protect fully the lives of their employes.

In accordance with instructions and suggestions heretofore made by me, many of the operators are introducing new and better methods, later and improved appliances for ventilation, &c, and are generally improving the condition of their works, thus adding materially to the safety of the persons employed in the production of coal and coke.

Notwithstanding the general stagnation in business throughout the country, the almost total suspension for several months of the trade in coke, and some local troubles, including strikes, and unavoidable accidents, there has been, nevertheless a very satisfactory increase in the production of coal, and a slight increase in the production of coke in the district over that of the preceding year.

The production of coal was 2,762,970 long tons (2240 lbs) as against 2,427,662 last year, an increase of 335,308 tons. The production of coke was 364,373 tons, an increase of 16,148 tons.

The number of fatal accidents during the year was twelve, as against eight last year, and non-fatal accidents, thirty eight, as against thirty last year. There was one strike during the year in the district in which were involved the mines in four counties, viz: Marion, Marshall, Ohio and Brooke. In Marion county the differences between the men and the operators lasted about two months and seriously curtailed production. In Marshall, Ohio and Brooke counties the strike extended over a period of about seven months. During said period operators in Pennsylvania and elsewhere secured the contracts for coal which had been sold from these mines and their production was reduced to a minimum and so still remains.

One mine, the Mountain Brook Shaft, at Newburg, Preston county, has been abandoned, and seven new ones are reported viz: Blanche, in Brooke county; Glendale, in Marshall; King, in Marion; Briar Hill and Findlay & Whitehead, in Harrison; Thomas Shaft, in Tucker; Pierce, in Mineral.

It will be noticed that the mines, Davis Nos. 1, 2, 3 and 6, at Elk Garden, Mineral county; Coketon Nos. 1, 2 and 3, at Coketon, Tucker county; and Monongah Nos. 1, 2 and 3, at Monongah, Marion county, heretofore reported separately, are in this report classified together, respectively, as three mines.

The following report contains the usual statistics relative to production, employes and accidents, and such other information as is required or was deemed of special interest or value.

The tables are conveniently arranged for reference and are believed to be correct.

Very respectfully,

DAVID M HARR,

Inspector of Mines, First District, West Virginia.

HOULT, MARION COUNTY, W. VA., DEC. 1, 1893.

DESCRIPTION AND LOCATION OF MINES

IN THE

FIRST DISTRICT OF WEST VIRGINIA.

Brooke County.

BLANCHE MINE

is on a branch of the P. C. & St. L. R. R., about eighteen miles northeast of Wellsburg, and is operated by L. O. Smith. The ventilation is produced by a furnace, which, on my last visit to the mine, was not producing very good results. The furnace was not receiving proper attention and the air was only moderately good. The coal worked is a local seam and is very hard. Roads and drainage are good. On November 21, 1892, an explosion of powder occurred at this mine, killing three men and injuring several others. On receiving notice of the accident I immediately went to the mine, and on investigation found that the miners were allowed to take and keep whole kegs of powder in the mine, which is very dry and dusty. A keg of powder had become ignited in one of the rooms and the explosion, being largely increased in force by the unusual amount of coal dust which pervades the mine, extended to other powder and became general, with the fatal result above stated. This accident was, in my opinion, wholly chargeable to carelessness, involving both the miners and those in charge of the works. The keeping of large quantities of powder in the mine is unnecessary, dangerous and wholly inexcusable, and the direful result of this calamity seems to call for an additional protest against the practice. Pit boss, William Kibbs.

WELLSBURG MINE,

on the P.,, C. & St. L R. R., at Wellsburg, operated by Forbes, Carmichael & Co. Ventilation, by a furnace, which produces very good results. Roads and drainage are fair. Mine has run very little during the year. Pit boss, J. W. Carmichael.

SHORT CREEK MINE,

on the line of the P. C. & St. L. R. R., about twelve miles south of Wellsburg. Mine is ventilated by natural means. Does not employ enough men to come under the jurisdiction of the law the year round, consequently is not kept in very good condition at all times. Sup't and mine boss, Joseph Cooper.

Harrison County.

BRIAR HILL MINE,

a new drift mine on the line of the M. R. Railroad, about eight miles north of Clarksburg. Mine is opened upon the double entry system Ventilation is by natural means, but a fan will soon be erected. Coal is full nine feet thick and of excellent quality for gas and coke. Air is very good. Roads and drainage are good. Pit boss, Peter Gill.

DESPARD MINE,

on the Parkersburg branch of the B. & O. Railroad, about two miles east of Clarksburg, operated by the Despard Coal Co. Ventilation by natural means and is very fair. Roads and drainage good. Coal at this mine is about eight feet thick, of good quality and is now making a very fair quality of coke. Pit boss, John Lotstetter.

FARNUM MINE.

on the M. R. R. R., about eight miles north of Clarksburg, operated by the West Fork Coal and Coke company. Ventilated by natural means, which is not very good, from the fact that the openings are both on the same level. A fan will shortly be put in at this mine. Roads and drainage are fair. Coal is about 7½ feet thick and makes a good quality of coke. Pit boss, James Barr.

FINDLAY AND WHITEHEAD MINE,

at Mt. Clare, on the West Virginia and Pennsylvania Railroad, has been opened within the year. Ventilation by natural means, and was not very good at the date of my last visit, Roads and drainage not very good. This mine is in the Pittsburgh vein, and the coal is used chiefly for railroad and domestic purposes. Pit boss, Lee Mitchell.

GLEN FALLS MINE,

on the line of the M. R. R. R., about four miles north of Clarksburg, operated by the Glen Falls Coal and Coke Company, worked on a small scale, has natural ventilation, which is not very good. Roads and drainage poor. Pit boss, Ezra Wolff.

HOWARD MINE,

on the Parkersburg Branch of the B. & O. R. R., at Wilsonburg, operated by the Howard Coal & Coke Company. Ventilated by natural means and is in good condition. The main entry is driven clear through the hill and there are a number of openings, making the ventilation excellent. Roads and drainage good. Superintendent and mine boss, John Temple.

MOUNT CLARE MINE,

is a small mine at Mount Clare, on the W. Va. & P. Railroad, about six miles south of Clarksburg. Operated by Patterson & Mitchell. This is one of the mines hardly coming under my jurisdiction, but in the fall they work about 15 men, the coal being used for steam and domestic purposes. Ventilation is natural and is poor. Roads and drainage indifferent. Pit boss, Robert Mitchell.

Marion County.

AURORA MINE,

on the F. M. & P. Railroad, two miles northeast of Fairmont. Operated by The Newburg Orrel Coal Company. Ventilation is produced by a furnace and is good. Roads and drainage are good. Pit boss, John M Henry.

CENTRAL MINE,

on the B. & O. R. R., about one mile northeast of Fairmont, owned and operated by Oliver Jackson. Ventilation is produced by natural means and is first class. Roads and drainage good. Pit boss, Benj. F. Corbin.

CLEMENTS MINE

on the F. M. & P. Railroad, seven miles north of Fairmont. Operated by the Poole Coal and Coke Company. Ventilation is produced by a fan, which gives very good results. Roads and drainage are good. This mine will probably be worked out during the coming year. Pit boss, D. B. Brooks.

GASTON MINE

operated by the Gaston Gas Coal Company, situated on the M. R. R R., about three miles south-west of Fairmont. Ventilation is produced by a fan. On account of the long drag and the large area of the mine the air was not so good as it should have been, but a new fan has been put in since and is producing better effects. The ventilation is now good. The mine is worked on a first-class system, all being double entry work. Roads and drainage are good. The vein is from eight to nine feet thick and makes a fine quality of coke They are still introducing improved methods of mining at this mine and it is now in very satisfactory condition. Mining boss, Granville B. Brown.

KING MINE.

A new mine located on Tygart's Valley River, opposite the B. & O. R. R., about four miles south-west of Fairmont. Ventilation is produced by a steam jet and is very fair. Roads and drainage are good. The Virginia & Pittsburgh Coal & Coke Co. operates this mine. The coal is taken across the river by means of a Bleichert wire rope tramway, which consists of two stationary wire cables and one endless traction rope. The distance between loading terminal and discharge terminal is 590 feet. with one iron tower or support 150 feet from the loading terminal, leaving the longest span 440 feet. Difference between level of terminals is 20 feet in favor of the loads. There are 18 buckets with this line, holding one-half ton each. The bucket or car consists of two wheels, or carriage hanger, friction grip and bucket. The traction rope is run by an 8x12 Erie City engine, geared to a sheave wheel 8 ft. 4 in. in diameter, filled with rubber and leather. There is also a similar wheel at the discharge terminal. placed on a slide to loosen or tighten the traction rope The speed of the traction rope is 250 feet per minute. The buckets are loaded from a large bin with a patent schute and are then gripped by hand to the traction rope while in motion and are detached automatically at each terminal. They have loaded 43 tons with eight buckets in one hour. The Trenton Iron Co., of Trenton, N. J., builders of this tramway, guaranteed 800 tons per day of ten hours, and I have no doubt the line will do that much or more. Their daily capacity at present is about 400 tons. There is no other similar contrivance in this district. Superintendent and mine boss, Rolfe M. Hite.

MONONGAH MINES, NOS. 1, 2 AND 3,

at Monongah, on the line of the M. R. R. R., owned and operated by the Monongah Coal and Coke Company. The openings are but a few hundred yards from each other, and together constitute the largest coal and coke plant in the state. The coal and coke product is of a very fine quality, and their combined capacity is about three thousand tons of coal per day, They have 320 coke ovens, and are in good condition throughout.

Mine No. 1 is a slope ventilated by a fan 20 feet in diameter, which produces excellent results. Roads and drainage good. This mine is worked on the double entry system and generates some fire damp, but the air is well conducted through the mine and no gas is allowed to accumulate. Pit boss, James Rodgers.

Mine No. 2 is situated about 400 yards from No 1, and is also a slope. Ventilation is produced by a fan 12 feet in diameter, and is very good. A larger fan will be shortly put in to accommodate and supply the extended workings. Roads and drainage are good. Pit boss, M. Mannix.

Mine No. 3 is a drift, situated about half a mile southwest of No. 2. This mine is ventilated by a fan 12 feet in diameter which is used with good results. Roads and drainage are good. Pit boss, John McDonell. M. G. Tyler is general manager for the company and Thomas Middleton, superintendent.

MONTANA MINE,

on the F., M. & P. Railroad, is six miles from Fairmont, and owned and operated by the Montana Coal and Coke Company. Ventilation is produced by a fan fifteen feet in diameter, which produces a volume of about 60,000 cubic feet of air per minute. This is sufficient to thoroughly ventilate the whole mine and the ventilation is excellent. Roads and drainage are good. This mine is worked on the double entry system. All of the tipples, crushers, engine and boiler houses and machinery at this mine were destroyed by fire during the year, but were at once replaced by new and modern appliances and machinery of largely increased capacity. Mine boss, C. E. Gaskill.

PALATINE MINE,

owned and operated by the Newburg Orrel Coal Company. is located on the B. & O. R. R., at the Monongahela River Bridge, two miles southwest of Fairmont. Ventilation is natural and good. Roads and drainage are good. Pit boss, J. C. McKinney.

PRICHARD MINE

on the M. R. R. R., about two miles south of Monongah. Operated by Clark Coal and Coke Company. Ventilation by a furnace with good results. Roads and drainage are good. Pit boss, George Cockburn.

WEST FAIRMONT MINE

on the B. & O. R. R., about one mile north of Fairmont. Operated by West Fairmont Coal and Coke Company. This is a shaft, 106 feet deep, and at times generates fire damp. Ventilation is produced by a fan. The air is well conducted through the mine, and in sufficient quantities to give full protection against the accumulation of gas. Roads and drainage are good. Pit boss, David Evans.

Marshall County.

BOGG'S RUN MINE,

at Benwood, on the B. & O. Railroad. Operated by the Bogg's Run Mining and Manufacturing Co. Ventilation is produced by a fan supplying a good volume of air, well conducted through the mine. This mine has not been worked much during the last year on account of labor troubles. Roads and drainage are fair. Pit boss, John Miller.

GLENDALE MINE.

This is a new shaft mine, 100 feet deep, situated on the B. & O. Railroad, about three miles north of Moundsville, and has easy access also to the Ohio River Railroad and to the Ohio river. Operated bv the Glendale Coal Company. Ventilation is by a fan, and is good. This mine generates fire damp and is carefully looked after Roads and drainage are fair, but the mine produces much water, making the roads difficult to keep in repair. Superintendent, D. F. Henry; mine boss, T. R. Spencer.

MOUNDSVILLE MINE.

This is a shaft mine, 112 feet deep, situated on the B. & O. R. R., at Moundsville, and is operated by the Moundsville Coal Company. Ventilation is produced by a fan. Air is well conducted through the mine by splits [and overcasts. Roads and drainage are good. Mine generates fire damp in considerable quantities, but is sufficiently well ventilated to protect the miners. Mine boss, John Brooks, Sr.

Mineral County.

ATLANTIC MINE,

on the W. Va. C. & P. R. R., ten miles south of Piedmont. Operated by the Atlantic and George's Creek Consolidated Coal Company. Ventilation is produced by natural means, and is very good. Roads and drainage are fair. Mine is nearly worked out and they are now engaged in drawing pillars. Superintendent and mine boss, John Jose.

ELK GARDEN MINES.

Nos. 1, 3, 4 and 6, on a branch of the W. Va. C. & P. R. R., at Elk Garden. Operated by the West Virginia Central and Pittsburg Railroad Company. Nos. 1, 3 and 4 are all connected and ventilation is produced by a furnace and natural means. The air is good, except at times when carbonic acid gas comes in from the old works. Roads and drainage are fair. Mine No. 6 is located one mile southeast of Elk Garden. Ventilation is produced by natural means and is very good. Roads and drainage are good. Coal is hauled out by a rope. Capacity of this mine, about 1,000 tons per day. Mine boss, A C. Rawlings.

HAMPSHIRE MINE,

on the W. Va. C. & P. R. R., about three miles from Piedmont. Ventilation is natural and is fair. Roads and drainage are good. Superintendent, Jno. C. Beydon; mine boss, Fosten Wilson.

PIERCE MINE,

Elk Garden branch of the W. Va. C. & P. R. R., about three miles south of the Elk Garden and operated by Big Vein Coal Company. Ventilation is natural and very fair. Roads and drainage are fair. Mine boss, John W. Fahey.

WINDOM MINE

is the mine formerly known as the Virginia, operated by the Davis Coal and Coke Company, about seven miles from Piedmont, on the W. Va C. & P. R. R. Ventilation is natural and very good, with the exception of one entry, which was quite close. At the date of my last visit they were working for an outlet, which is since completed. The coal at this mine is the thickest in the region or district, being about fifteen feet of clean, workable coal on an average. The little seam known as the Upper Freeport, heretofore worked at this mine, has been abandoned. Roads and drainage are fair. Mine boss, O. Tibbetts.

Monongalia County.

ACME MINE,

on the F., M. & P. R. R., about nine miles north of Fairmont. Operated by the Acme Coal & Coke Company. Ventilation is produced by a furnace, which produces very good results. Roads and drainage are good. Mine boss, William Hanson.

BEECHWOOD MINE,

on the F., M. & P. Railroad, about eleven miles northeast of Fairmont. Operated by the Hutchinson Coal & Coke Company. Ventilation is produced by a furnace, and is fair. Roads and drainage are good. Mine boss, J. D. Wilson.

Ohio County.

ELM GROVE MINE

is a shaft 100 feet deep, situated on the B. & O. R. R., at Elm Grove. Ventilation is produced by a fan and is very good. Roads and drainage, not very good. Mine is operated by the Elm Grove Coal and Coke Company, and general improvements are being made. A new tipple, new cages, new lining for the shaft and other improvements are in process of erection. Mine boss, John Beesentheiner.

MANCHESTER MINE

in the sonth-eastern part of Wheeling, operated by T. E. Kasley & Son. Ventilation is produced by a fan and is good. Roads and drainage are good. Mine boss, Louis Freebold.

WHITTAKER MINE

in the south-western part of Wheeling, operated by T. E. Kasley & Son. Ventilation is produced by a fan and is fairly good. Roads and drainage are good. Mine boss, James Young.

Preston County.

AUSTIN MINE

on the B. & O. R. R., about three miles east of Newburg, operated by Austin Coke Works. The product of this mine is used exclusively for coke, which is of the best quality. They have put in a tail rope system of hauling, which will be a great improvement generally. Ventilation is produced by a fan with good results. Roads and drainage are good. The seam of coal worked is about five feet thick and is known as the Upper Freeport vein. Mine boss, J. M. Whittaker.

HILLSIDE MINE

at the west end of Kingwood Tunnel, on the B. & O. R. R., operated by the Hillside Coal & Coke Company. Ventilation is produced by a small furnace, (swinging basket) and is not very good. Road and drainage are fair. Superintendent and mine boss, J. X. Hill.

OAKLAND MINE

on the B. & O. R. R., at Corinth, operated by the Oakland Coal & Coke Company. Ventilation is produced by a small furnace and is not very good. Roads and drainage are indifferent. Mine boss, J. H. Shepherd.

SCOTCH HILL MINE

is owned and operated by the Newburg Orrel Coal Company, situated at Newburg, on the B. & O. R. R. Ventilation is produced by natural means and is good. Roads and drainage good. This mine and the Mountain Brook shaft, of which I have no report, are abandoned. Superintendent, P. S. U. Lee; mine boss, R. H. La Rue.

Taylor County.

SIMPSON MINE

on the Parkersburg branch of the B. & O. R R., seven miles west of Grafton. Ventilation is by natural means and is fairly good. Roads and drainage are very good. Mine boss, F. C. Colburn. This mine is now in litigation and has suspended operations for the present.

TYRCONNELL MINE

on the Parkersburg branch of the B. & O. R. R. R., seven miles east of Clarksburg, operated by the Newburg Orrel Coal Company. Ventilation is produced by a furnace and by natural means and is good. Roads and drainage are good. Mining boss, Robt. Love.

Tucker County.

COKETON NO. 2 MINE,

on the W. Va. C. & P. R. R., at Coketon. Operated by Davis Coal & Coke Company. It is a drift mine and is ventilated by a fan, which gives good results. Roads and drainage are good. Rope haulage is in successful use at this mine. Mines No. 1 and No. 3 are not in operation. Mine boss, Daniel Ferimond.

DOUGLAS MINE.

Operated by Cumberland Coal and Coke Company, and is situated one mile south of Coketon, on the W. Va. C. & P. R. R. Ventilation is produced by a small furnace, and is tolerable. Roads and drainage are fair. Mine boss, Richard Jenkins.

THOMAS MINE,

on the W. Va. C. & P. R. R., at Thomas. Operated by the Davis Coal & Coke Company. Well ventilated by a fan. Roads and drainage good. On my last visit I found the mine in general good condition. Mine boss, A. J. Coleman.

THOMAS SHAFT MINE,

at Thomas, on the W. Va. C. & P. R. R. Operated by the Davis Coal and Coke Company. Ventilation is produced by a steam jet and is very good, considerably improved since my last visit. Roads are very good. Drainage is fair. This shaft is 180 feet deep and produces large quantities of water, but no fire damp has yet been found in the mine. Mine boss, John M. Davis.

STATISTICAL INFORMATION.

TABLE I.

Showing the Production of Coal and Coke by counties, from July 1, 1892, to December 31, 1892, and from January 1, 1893, to June 30, 1893, in First District of West Virginia.

COUNTIES.	Mines Reported.	Coal—Tons 2240 pounds.			Coke—Tons 2000 pounds.			Ovens.		
		July 1 to Dec. 31, 1892.	Jan. 1 to June 30, 1893.	Totals.	July 1 to Dec. 31, 1892.	Jan. 1 to June 30. 1893.	Totals.	In Blast.	Out.	Total.
Brooke	3	7,276	22 099	29,375	......	......	......	......	......	......
Harrison	7	115,570	132,529	248,099	7,419	13,211	20,630	120	....	120
Marion	10	452,005	506,291	958,296	90,645	102 799	193,414	612	17	629
Marshall	3	41 276	69 254	110,530	......	......	......	......	......	
Mineral	5	269,995	287 493	557,488	......	......	......	......	......	
Monongalia	2	53,300	44,605	97,905	8,650	8,355	17,005	38	...	38
Ohio	3	18,128	30,553	48,681	......	......	......	......	......	......
Preston	4	57,144	48,474	105.618	12,690	10,757	23,447	133	9	142
Taylor	2	32,338	35.690	68,028	4 429	4,202	8,631	25	...	25
Tucker	4	282.125	256,825	538,950	53.388	47,828	101,216	184	203	387
Totals	43	1,329,157	1,433,813	2.762,970	177.221	187,152	364,373	1.112	229	1,341

TABLE II.

Showing Production of Coal and Coke of each Colliery in the First District of West Virginia, for the Year Ending June 30, 1893.

NAME OF COLLIERY.	COUNTY.	Coal—Tons. 2,240 lbs.	Total.	Coke—Tons. 2,000 lbs.	Total.
Aurora	Marion.	33,350			
Central	"	12,633		2,584	
Clements	"	32.000		21,000	
Gaston	"	156.945		29,031	
Monongah, Nos. 1, 2 and 3	"	356,027		61,286	
Montana	"	162,620		60,854	
Palatine	"	45,439			
Prichard	"	30,793		2,329	
King	"	25,275			
West Fairmont	"	103,214	958,296	16,360	193,444
Acme	Monongalia.	53,975		8.825	
Beechwood	"	43,930	97.905	8.180	17,005
Atlantic	Mineral.	43.597			
Elk Garden	"	364,614			
Hampshire	"	34,161			
Pierce	"	31,160			
Windom	"	83.953	557,488		
Boggs Run	Marshall.	68,181			
Glendale	"	3,317			
Moundsville	"	39,029	110,530		
Simpson	Taylor.	8.036			
Tyrconnell	"	59,992	68,028	8,631	8,681
Briar Hill	Harrison.	43,173		4,432	
Despard	"	39,533		4,574	
Farnum	"	45,050		8,315	
Findlay and Whitehead	"	16,405			
Glen Falls	"	12,406			
Howard	"	73,675		3,309	
Mount Clare		17,857	248,099		20,630
Blanche	Brooke.	10,497			
Short Creek	"	9,603			
Wellsburg	"	9,275	29,375		
Elm Grove	Ohio.	8,506			
Manchester	"	16,524			
Whittaker	"	23.651	48,681		
Austin	Preston.	28,037		17,457	
Hillside, C. & C. Co	"	12,000		600	
Oakland	"	23.107		5,390	
Scotch Hill	"	42.474	105.618		23,447
Coketon No. 2	Tucker.	325.816		71,076	
Douglas	"	88.571		17.900	
Thomas Mine	"	88.563		12,240	
Thomas Shaft	"	36,000	538,950		101,216
Total			2.762.970		364,373

TABLE III.

Showing the Number of Employes in and Around Collieries in the First District of West Virginia, Character of Seam Work, Mode of Ventilation, Etc.

NAME OF COLLIERY.	Employes. Miners.	Employes. Day Laborers.	Employes. Coke Workers.	Employes. Total.	Kind of Mine.	Mode of Ventilation.	Seam Worked	Vein Thick.	Kind of Coal.	Coke Ovens.	Months Run.
BROOKE COUNTY.								Ft. in.			
Blanche	40	7	....	47	Drift.	Furnace.	Local Seam.	4 6	Steam.	.. ..	10
Short Creek	25	7	....	32	"	Natural.	Pittsburg.	5	"	.....	9
Wellsburg	17	6	....	23	"	Furnace.	"	5	"	.....	9
HARRISON COUNTY.											
Briar Hill	40	9	6	55	"	Natural.	"	9	Gas and Coke.	22	10
Despard	35	16	3	54	"	"	"	9	" "	18	11
Farnum	45	10	10	65	"	"	"	9	" "	30	12
Findlay & Whitehead	10	7	....	17	"	"	"	8	" "	.....	3
Glen Falls	36	9	....	45	"	"	"	9	" "	....	7
Howard	73	18	4	95	"	"	"	9	" "	50	12
Mount Clare	15	3	.... .	18	"	"	"	9	" "	.....	12
MARION COUNTY.											
Aurora	35	11	....	46	"	Furnace.	"	8	" "	.....	12
Central	30	9	2	41	"	Natural.	"	9	" "	10	12
Clements	45	9	9	63	"	Fan.	"	9	" "	45	12
Gaston	130	55	35	220	"	"	"	9	" "	90	12
King	20	8	......	28	"	Steam Jet.	"	9	" "	.....	12
Monongah, No. 1, 2 and 3	350	160	80	590	No.1D. 2&3S.	Fan.	"	9	" "	323	12
Montana	175	65	60	300	Drift.	"	"	8	" "	158	11
Palatine	37	14	....	51	"	Natural.	"	9	" "	.....	12
Prichard	40	10	3	53	"	Furnace.	"	9	" "	12	12
West Fairmont	85	25	12	122	Shaft.	Fan.	"	9	" "	36	12
MARSHALL COUNTY.											
Boggs Run	65	31	....	96	Drift.	"	"	6	Steam.	...	8
Glendale	25	11		36	Shaft.	"	"	6	" "		5
Moundsville	80	18		98	"	"	"	6	" "		9

TABLE III.—Continued.

NAME OF COLLIREY.	Employes. Miners.	Day Laborers.	Coke Workers.	Total.	Kind of Mine.	Mode of Ventilation.	Seam Worked.	Vein Thick. Ft. in.	Kind of Coal.	Coke Ovens.	Months Run.
MINERAL COUNTY.											
Atlan'ic	30	14	....	44	Drift	Natural.	Pittsburg.	12	Steam	....	12
Elk Garden	320	55	....	375	"	Nat. and Fur	"	12	"	....	12
Hampshire	55	14	....	69	"	Natural.	Kittanning.	6	"	....	12
Pierce	28	8	....	36	"	"	Pittsburg.	14	"	....	12
Windom	76	25	....	101	"	"	"	14	"	....	10
MONONGALIA COUNTY.											
Acme	45	11	10	66	"	Furnace.	"	9	Gas and Coke.	20	12
Beechwood	30	9	10	49	"	"	"	9	" "	18	12
OHIO COUNTY.											
Elm Grove	35	14	....	49	Shaft.	Fan.	"	6	Steam.	....	9
Manchester	16	4	....	20	Drift.	"	"	5	"	....	12
Whittaker	20	10	....	30	"	"	"	5	"	....	12
PRESTON COUNTY.											
Austin	29	18	26	73	"	"	Up. Freeport.	5	Coke & Steam	83	8
Hillside C. & C Co	25	8	7	40	"	Furnace.	" "	5	" "	9	5
Oakland	35	8	7	50	"	"	" "	5	" "	50	12
Scotch Hill	30	13	....	43	"	Natural.	Pittsburg.	12	Gas "	....	12
TAYLOR COUNTY.											
Simpson	12	6	....	18	"	"	"	8	" "	....	8
Tyrconnell	60	22	8	90	"	Furnace.	"	8	" Coke.	25	12
TUCKER COUNTY.											
Coketon No. 2	160	26	50	236	"	Fan.	Lo. Kittanning	11	Steam & "	320	12
Douglas	50	24	14	88	"	Furnace.	" "	11	" "	45	12
Thomas Mine	85	24	25	134	"	Fan.	Up. "	7	" "	22	12
Thomas Shaft	50	24	....	74	Shaft.	Steam Jet.	Lo. "	11	" "	....	12
Totals	2644	855	381	3880						1386	

Table IV—Showing Location of Collieries, &c, in the First District of West Virginia.

NAME OF MINE.	NAME OF OPERATOR.	SUPERINTENDENT.	MINE BOSS.	COUNTY.	POST OFFICE
Blanche	Blanche Coal Co.	L. O. Smith	Wm. Hibbs	Brooke	Standard.
Short Creek	Cooper Coal Co.	James Cooper	James Cooper	Brooke	Short Creek.
Wellsburg	Forbes, Carmichael & Co	Wm. Forbes	J W. armichael	Brooke	Wellsburg.
Briar Hill	Briar Hill Coal and Coke Co.	C. W. Watson	Peter Gill	Harrison	Fairmont.
Despard	Despard Gas Coal Co.	Mord Lewis	John Latstetter	Harrison	Clarksburg.
Farnum	West Fork Coal and Coke Co	C. M. Shank	James Barr	Harrison	Farnum.
Findlay & Whitehead	Findlay & Whitehead	W. G. Findlay	Lee Mitchell	Harrison	Clarksburg.
Glen Falls	Glen Falls Coal and Coke Co	E F Moore	Ezra Wolff	Harrison	Clarksburg.
Howard	Howard Coke and Coal Oo	John Temple	John Temple	Harrison	Wilsonburg.
Mount Clare	Mount Clare Coal Co	J. A. Crislip	Rob't Mitchell	Harrison	Mount Clare.
Aurora.	Newburg Orrel Coal Co.	Charles Orr	John M. Henry	Marion	Palatine
Central	Oliver Jackson	J. Sands Jackson	B. F. Corbin	Marion	Fairmont.
Clements	Poole Coal and Coke Co	D. B. Brooks	D. B. Brooks	Marion	Scottdale.
Gaston.	Gaston Gas Coal Co	S. L. Watson	G. B Brown	Marion	Fairmont
King	Virginia & Pittsburgh Coal and Coke Co.	Rolfe M. Hite	Rolfe M. Hite	Marion	Fairmont.
Monongah No 1	Monongah Coal and Coke Co	Thomas Middleton	James Rodgers	Marion	Monongah.
" " 2.	Monongah Coal and Coke Co	Thomas Middleton	M. Mannix	Marion	Monongah.
" " 3.	Monongah Coal and Coke Co	Thomas Middleton	John McDowell	Marion	Monongah.
Montana	Montana Coal and Coke Co	J. C. Gaskill	C. E. Gaskill	Marion	Montana.
Palatine	Newburg Orrel Coal Co	M. D. Orr	J. C. McKinney	Marion	Palatine.
Prichard.	Clark Coal and Coke Co	T. S. Haymond	George Cockburn	Marion	Fairmont.
West Fairmont	West Fairmont Coal and Coke Co.	L. L. Malone	David Evans.	Marion	Fairmont.
Boggs' Run	Boggs' Run Mining & Manufacturing Co,	Phillip Kuntz	Jacob Miller	Marshall	Wheeling.
Glendale	Glendale Coal Co	D. F. Henry	T. R Spencer	Marshall	Glendale.
Moundsville	Moundsville Coal Co.	J. O. Brooks' jr.	John Brooks, sr	Marshall	Mounsville.
Atlantic.	Atlantic & George's Creek Consolidated Coal Co.	John Jose.	John Jose	Mineral	Piedmont.
Elk Garden	West Va. Central & Pittsburgh Railroad Co	W. B. Redgrave, jr.	A. C. Rawlings	Mineral	Elk Garden
Hampshire	Davis Coal and Coke Co	Jno. C. Brydon.	Fosten Wilson	Mineral	Thomas.
Pierce	Big Vein Coal Co.	E. R. Grant	Jno. W. Fabrey	Mineral	Elk Garden
Windom	Davis Coal and Coke Co	W. T. Blackiston	O Tibbetts	Mineral	Piedmont
Acme	Acme Coal and Coke Co.	C. E. Hutchinson	William Hanson.	Monongalia	Opekiska.
Beechwood	Hutchinson Coal and Coke Co.	C. E. Hutchinson	John Wilson.	Monongalia	Scottdale.
Elm Grove	Elm Grove Coal Co.	J. B. Chambers	John Besentheiner	Ohio	Elm Grove,
Manchester	T. E. Kasley & Son.	T. E. Kasley	Louis Freebold	Ohio	Wheeling.
Whittaker	T E. Kasley & Son.	T E. Kasley.	James Young	Ohio	Wheeling.
Austin	Austin Coke Works	C. Jessop.	J. M. Whittaker	Preston	Austin.
Hillside	Hillside Coal and Coke Co.	Jos. X. Hill.	J. X. Hill.	Preston	Tunnelton.
Oakland	Oakland Coal and Coke Co.	R. J. Anderson.	James Shepherd	Preston	Oakland.
Scotch Hill	Newburg Orrel Coal Co	P. S. H. Lee.	R S. LaRue.	Preston	Newburg.
Simpson	Simpson Coal Co	W. E. Colborn.	F. C. Colborn.	Taylor	Grafton.
Tyrconnell	Newburg Orrel Coal Co	John H. Henry	Rob't Love	Taylor	Tyrconnell
Coketon No. 2.	Davis Coal and Coke Co	Geo. S. Ramsay	Daniel Ferimond	Tucker	Coketon.
Douglass	Cumberland Coal Co	J. B. Jenkins	R. Jenkins	Tucker	Coketon.
Thomas Mine	Davis Coal and Coke Co	William Coulson	A. J. Coleman	Tucker	Thomas.
Thomas Shaft.	Davis Coal and Coke Co.	William Coulson	John M. Davis.	Tucker	Thomas.

TABLE V.

Showing Coal and Coke Production, Number of Employes, Fatal and Non-Fatal Accidents from July 1, 1892, to June 30, 1893, inclusive, in the First District of West Virginia

Actual coal production, tons of 2,240 pounds	2,762.970
Quantity of coke produced, tons of 2,000 pounds	364,373
Total number of coke ovens	1,311

EMPLOYES.

Number of inside miners employed	2,644
Number of day laborers	855
Number of employes connected with handling coke	381
Total number of persons employed in and around mines	3,880

PROPORTIONS.

Number of tons of coal produced per life lost	230.248
Number of tons of coal produced per non-fatal accident	72.710
Number of tons of coal produced per miner employed yearly	1.045
Average annual earnings per miner at 45 cts per ton	$470.25
Average monthly earnings per miner at 45 cts. per ton	$ 39 25

TABLE VI.

Showing Analysis of Coal and Coke in the First District of West Virginia.

NAME OF COLLIERY.		Fixed Carbon.	Volitile Matter.	Water.	Sulphur.	Ash.	CHEMIST.
Clements	Coal	55.2	37.00	1.00	0.8	6.00	A. S. McCreath.
	Coke	87.5	......	0.30	1.2	11.00	
Montana	Coal	57.957	36.000	1.512	0.931	3.600	A. S. McCreath.
	Coke	91.85	0.43	0.42	0.48	6.82	C. E. Dwight.
Monougah	Coal	53.480	36.921	1.526	1.088	6.985	A. S. McCreath.
	Coke	91.080	1.850	0.240	0.667	6.830	Wheeling Steel Works.
King	Coal	57.46	35.26	1.54	0.01	5.73	R. Heerlein.
Despard	Coal	53.30	40.0	.....	......	6.70	Manhattan Gas Light Co
Thomas Shaft	Coal	66.58	25.777	0.770	.550	6.320	Maj. Powell, U. S. Geol. Survey.
Coketon, No. 2	Coal	66.58	25.78	0.770	0.55	6.32	Maj. Powell.
	Coke	90.19	1.48	Trace	0.90	8.33	Haupt & Clap.
Thomas Drift	Coal, Upper	65.60	22.87	0.64	0.64	10.89	F. W. Clark, Chief Chemist.
	" Middle	65.99	23.88	0.68	1.39	9.45	F. W. Clark.
	" Lower	72.76	22.90	0.96	0.59	3.38	F. W. Clark.
	Coke, 48 hrs	87.08	0.95	0.23	0.63	11.74	F. W. Clark.
	" 72 hrs	90.05	1.16	0.15	0.70	8.64	F. W. Clark.
Bogg's Run	Coal	46.30	43.29	1.20	......	9.30	C. E. Dwight.
Moundsville Shaft	Coal	44.30	45.17	1.01	1.23	8.29	C. E Dwight.
Howard	Coal	55.76	37.36	1.10	1.82	3.96	S. C. Ford.
Austen	Coal	58.00	38.00	1.50	0.50	0.20	P. B. Wilson.
	Coke	87.98	.....	0.45		11.57	

TABLE VII.

The following is a List of Accidents Occurring in the Mines of the First District, for the Year Ending June 30, 1893.

FATAL ACCIDENTS.

DATE.	NAME.	AGE.	MARRIED OR SINGLE.	ORPHANS.	COLLIERY.	COUNTY	NATURE AND CAUSE OF ACCIDENT IN BRIEF.
1892, Nov. 21	Nicholas Coker.	..	Not reported.	....	Blanche....	Brooke.	Miner, explosion of powder.
1892, Nov. 21.	John Piaske	....	" "	....	Blanche.	Brooke..	Miner, explosion of powder.
1892, Nov. 21	Wesley Anderson	....	" "	....	Blanche..	Brooke...	Miner, explosion of powder.
1893, May 17.	P. B. Miley	40	Married.	2	Findlay & Whitehead.	Harrison.	Laborer, run over by cars on siding.
1893, June 28.	George L. Carpenter	54	"	7	Montana	Marion...	Miner, fall of slate.
1893, Apr. 20.	S. H. Cross	33	"	3	Monongah, No 1	Marion. .	Laborer, run over by R. car at tipples.
1893, Apr. 22.	Cline Morgan	20	Single.	....	Monongah, No. 1	Marion...	Machine man, fall of slate.
1892, Dec. 5.	Samuel Grimes	..	Not reported.	....	Gaston	Marion...	Miner, fall of coal.
1893, Feb. 5.	Bruno Grego	....	" "	....	Gaston	Marion ..	Coke worker, run over by Larry.
1892, Sept. 12	David Stanton.	35	Single.	....	Mt Brooke Shaft..	Preston .	Miner, fall of slate.
1892, Aug. 27.	Thomas Ross.	....	Married.	....	Coketon, No. 2	Tucker ..	Miner, fall of slate.
1893, Mch. 10.	Miske Nevis	....	"	....	Coketon, No. 2	Tucker ..	Miner, fall of coal.

NON-FATAL ACCIDENTS.

DATE.	NAMES.	COLLIERY.	COUNTY	NATURE AND CAUSE OF ACCIDENT IN BRIEF.
1892, Nov. 21	John Zaving, John Anderson, Wm. Anderson, — Hall Lawrence Campbell, Matthew Wright, John Gilespie, Geo Teters, Wm Ramsey, Harry Harris & Thos Criston	Blanche	Brooke	Burned by powder explosion.
	Thomas George	Farnum	Harrison ..	Ankle sprained by wagon
1893, Jan. 18	Newton Matheney	Howard	Harrison ..	Slight, blown out shot.
1892, Aug. 30	John Sprop	Montana	Marion ...	Four ribs broken; fell out of railroad car
1893, June 27	Harry Hamrick	Montana	Marion ...	Two fingers cut off by wagon.
1893, Feb 10	Antonio Souck	Monongah.	Marion. ...	Leg fractured by falling coal.
1893, May 17	E. C. Hamilton	Monongah.	Marion ...	Foot mashed by railroad car; amputation.
1893, June 15	W. M. Skinner	Monongah.	Marion	Foot crushed; fall of slate.
1893, June 28	E. W. Moran	Monongah.	Marion ...	Foot cut by mining machine.
1893, Apl. 11	Walter Vincent	Gaston	Marion	Leg broken; fall of coal.
1893, Apl 11	John Hartlen	Gaston.	Marion	Foot mashed; fall of coal.

TABLE VII—Continued.

NON-FATAL ACCIDENTS.

DATE.	NAMES.	COLLIERY.	COUNTY.	NATURE AND CAUSE OF ACCIDENT IN BRIEF.
1893, June 5	John Smith	Gaston	Marion	Hand mashed; fall of slate.
1893, June 30.	Harry Hunsaker	Gaston	Marion	Leg broken; fall of coal.
1893, May 13.	James Springer	Palatine	Marion	Ankle injured; fall of slate.
1893, Apl. 13	Lake Satterfield	Palatine	Marion	Leg injured by wagon.
1892, Dec.	Samuel Doty	Moundsville Shaft	Marshall	Leg broken, fall of slate.
1892, Nov. 4.	John McCraw	Boggs Run	Marshall	Squeezed between car and rib.
1892, Nov. 11.	Charles Zagow	Boggs Run	Marshall	Leg broken; fall of soapstone.
1893, Feb. 13	Albert Rowe	Hampshire	Mineral	Arm crushed; fall of coal; amputation.
1893, Mar. 4.	Cal. Fazenbaker	Hampshire	Mineral	Leg broken; fall of draw slate,
	Frank Savage	Pierce	Mineral	Slight injury to back.
1893, Feb 18.	John Manion	Elk Garden	Mineral	Leg fractured between mine cars.
1893, May 14.	John Smith	Elm Grove	Ohio	Injured by falling stone.
1892, June 3.	C. B. Lipscomb	Oakland	Preston	Caught and dragged by car; bruised.
1892, July 20.	Slavishman	Coketon No. 2	Tucker	Thigh fractured; fall of coal.
1892, Aug. 1.	Thos. Sharkey	Coketon No. 2	Tucker	Hip and spine slightly hurt.
1893, Mar. 10.	George Duro	Coketon No. 2	Tucker	Back and legs slight, fall of coal.
1892, Dec. 24.	George Temco	Douglas	Tucker	Ribs and legs broken; fall of slate.

REPORT OF MINE INSPECTOR.

SECOND DISTRICT.

OFFICE OF MINE INSPECTOR,
SECOND DISTRICT OF WEST VIRGINIA.

To His Excellency, WILLIAM A. MACCORKLE,

Governor of West Virginia:

SIR: In compliance with sec. 4 of the mining law of West Virginia, I herewith submit to you my annual report as Inspector of Mines for the Second District for the year ending June 30, 1893.

It is a pleasure to me to report that West Virginia is making rapid progress to the front as a coal producing state.

Statistics show that the percentage of increase in the coal production from 1880 to 1892 in West Virginia is 520, while the increase in the state of Ohio from 1880 to 1892 is only 108. At this rate our little Mountain State will within a few years take the position that Ohio now occupies as a coal producing state.

The production of coal in the Second District for this year is 6,995,084 tons of 2,240 lbs each, which is an increase of 1,645,176 tons over the preceding year.

The manufacture of coke has decreased 238,678 tons in the District. In Fayette county the production of coke for 1892 was 680,216 tons; for this year, ending June 30, 1893, the production was only 305,486—less than one half the amount of the former year. Mercer and McDowell counties, however, have increased in the production of coke. The gain in Mercer county is 38,891 tons, and the gain in McDowell is 96,764 tons over that of last year. The number of coke ovens now completed in the district is 5,439. This is an increase over last year of 1,327, and there are 1,112 ovens under construction in Mercer and McDowell counties. The total number of persons employed in and about the mines has increased from 11,306 in 1892, to 13,249 in 1893. There is a marked increase in fatalities in Mercer and McDowell counties. I think this is due to the employment of unskilled miners. I have visited all the mines in the Second District twice, and some of them oftener. In this report you will find tables giving the fatal and non-fatal accidents and such other information as is required by section 4 of the Mining law. In my last report I recommended a division of the District or an increased inspecting force, which was mentioned in the Governor's message to the Legislature, and on February 23, 1893, the following act was passed:

Be it enacted by the Legislature of West Virginia:

1. That section one of chapter seventy of the acts of eighteen hundred and eighty-three, as amended by chapter fifty of the acts of eighteen hundred and eighty-seven, and as further amended re-enacted by chapter nine of the acts of eighteen hundred and and ninety, entitled an act concerning the ventilation and drainage of coal mines and for the protection of the lives of persons employed therein, be amended and re-enacted so as to read as follows:

1. For the purpose of adopting a more efficient system of mine inspection the State of West Virginia is hereby divided into three mining districts as follows:

The counties of Barbour, Berkeley, Brooke, Calhoun, Doddridge, Gilmer, Grant, Hampshire, Hancock, Hardy, Harrison, Jackson, Jefferson, Lewis Marion, Marshall, Mineral, Monongalia, Morgan, Ohio, Pendleton, Pleasants, Preston, Randolph, Ritchie, Roane, Taylor, Tucker, Tyler, Upshur, Wetzel, Wirt and Wood shall compose the first district. The counties of Boone, Braxton, Cabell, Clay, Kanawha, Lincoln, Mason and Webster shall compose the Second District.

The counties of Fayette, Greenbrier, Logan, McDowell, Mercer Monroe, Nicholas, Pocahontas, Putnam, Râleigh, Summers, Wayne, and Wyoming shall compose the Third district.

[Approved February 24th, 1893.]

[NOTE BY THE CLERK OF THE HOUSE OF DELEGATES.]

The foregoing Act takes effect at the expiration of ninety days after its passage.

Very respectfully,
M. F. SPRUCE,
Inspector Second District.

EASTBANK, Kanawha Co., W. Va., Dec. 13th, 1893.

LOCATION OF MINES IN THE SECOND DISTRICT OF WEST VIRGINIA.

Mason County.

New Haven Mines,

one and one-half miles above Hartford City, operated by the New Haven Coal & Mining Company. Slope mine; was formerly ventilated by a furnace, but is now ventilated by a fan, which is very satisfactory.

Hartford City Mines,

Hartford City, operated by the Hartford City Salt Company. On the last two visits to this mine it was found idle. T. E. Jones, mine boss.

California Mines,

back of Hartford City, operated by the Juhling Coal Company. Mine has always been found in fair condition as to ventilation. On last visit, however, mine not running; only made partial inspection. William Richard Turnbull, mine boss.

Liverpool Mine,

about one-half mile below Hartford City, operated by the Liverpool Salt and Coal Company; ventilation is fair. Harry Hart, mine boss.

McDaniels Mine,

located between Hartford City and Mason, operated by Pierce Bros. Coal is used at the German furnace in the manufacture of salt. Ventilation is not what it should be, and not as good as on a former visit.

HOPE MINE

is located at Mason on the Ohio River Railroad. Operated by the Hope Salt & Coal Co. Not in good condition as to ventilation. Edward Edwards is superintendent; Henry Williams, mine boss.

CAMDEN MINE,

four miles below Pomeroy, Ohio. Operated by the Consumers Coal & Mining Co. Only mine in Mason county in which electric machines are used for mining. Steam locomotives used for hauling coal from the mines. Ventilated by a furnace which gives good results. H. C. Roush, mine boss.

NEW HAVEN MINE No. 2,

operated by the Consumers' Coal & Mining Company.

Putnam County.

PLYMOUTH MINE,

twenty miles below Charleston on the line of the K. & M. Railroad. Operated by the Carver Coal Company. Ventilation has usually been found good.

BANCROFT MINE,

one-half mile above Plymouth. Operated by the Kanawha & Lake Erie Coal Co. At one time the ventilation was by no means sufficient, but on my last visit I found it much improved. Thomas Davis, mine boss.

QUEEN CITY,

about one-half mile above Bancroft. Operated by the Queen City Coal Company. On last visit there were only a few miners employed in driving entry and no inspection was made. Robert Buhanan, mine boss.

FLORENCE,

sixteen miles below Charleston. Operated by the Marmet Mining Company. This is a very extensive mine, employing about three hundred miners. Ventilation has always been found fair. E. Hemmings, mine boss.

Kanawha County.

Black Band, No. 2,

located on Davis Creek, on the line of the Kanawha and Coal River Rail Road, twelve miles from the C. & O. railroad. The pillars are nearly all drawn, after which the mine will be abandoned. The ventilation is natural, but seems to be sufficient for the few men employed therein. James Noble, mine boss.

Black Band, No. 3,

one-half mile above No. 2 mine and known as Sunnyside. Operated by the Black Band Coal and Iron Company. The system of conducting the air by the use of brattice has been employed at this mine, which has not been a success. The leakage is so great that there is no noticeable current at the head of the workings where the brattice is depended upon. The first and second left entries, where brattice is not in use, are ventilated fairly well. James Noble is mine boss.

Graham Mines,

on the Charleston, Clendennin and Sutton Railroad, about seven miles from Charleston. Operated by the Elk River Coal Company. Old mine, having been operated about twenty years ago. Ventilated by a temporary furnace, which is a very poor one, and fails utterly to give a sufficient current to ventilate the mine.

Henry Pirrung and others are opening a mine about one mile below Mason's, on the line of the C., C. & S. R'y. This will probably be in operation by the first of next year.

Campbell's Creek New Mines

on Campbell's Creek, operated by the Campbell's Creek Coal Company. The coal is hauled from this mine with an electric motor, which hauls about twenty cars each trip with good speed. From indications the electric power as applied to this mine will prove a success. On my last visit, June 7, 1893, I found the ventilation only fair. This is a large mine and the furnace now in use has not sufficient power. I have recommended the use of a fan. Wm. B. Calderwood, mine boss.

Spring Fork Mine

on Campbell's Creek, one-half mile above the new mine, operated by the Campbell's Creek Coal Company. Owing to the increased distance the air has to travel by reason of the increased extent of the mine at the head of the main working the air current is weak.

The power of the furnace is not sufficient to overcome the leakage, consequently the ventilation is not as good as it should be. However I have no complaints from the miners at this mine. Wm. B. Calderwood, mine boss.

HUDSON MINE,

Campbell's Creek, near the Spring Fork mine, operated by the same company. The principle work in this mine is pillar work. Ventilation is very good. Wm. B. Calderwood, mine boss.

DICKINSON MINE,

one mile above Malden, operated by John Q. Dickinson & Co. Ventilation is natural, but has usually been found good. David Howery, mine boss.

BLACK HAWK MINE,

at Black Hawk Hollow, below Malden. There has been some improvements made at this mine within the last year, but no report of the out-put of coal has been sent in. W. W. Straughan, mine boss.

WINIFREDE MINES, NOS. 1, 2, 3 AND 4,

on Field's Creek. Operated by the Winifrede Coal Company.

No. 1 Mine is known as the old south mine; is ventilated by a furnace which I regard as being the best furnace in the Second District. Mine locomotive. The ventilation in this mine from the haulage way is produced by the furnace; the working parts of the mine are ventilated by a fan, which is located at the new south and north mines in such a way as to ventilate the three mines. James Youell, mine boss.

No. 2 Mine, known as north; located one-fourth mile above south mine. Ventilated by a fan. The quantity of air furnished by the fan for this mine is altogether sufficient if properly conducted through the workings; this, however, has been neglected to some extent. G. W. Nelson, mine boss.

No. 3 mine is on the south side opposite the north mine, and is known as the new south mine. Mine is ventilated by the north mine fan; the ventilation is very good. G. W. Nelson, mine boss.

No. 4 mine is located on the mill hollow, one-half mile below the old south mine. Mine is ventilated by a furnace: which has always been found good. Joseph Pirrung is mine boss.

LEWISTON MINE,

located at Winifrede Junction. Operated by Mike Bean. Ventilated by a furnace which has generally given good satisfaction. On my last visit I found the air current a little weak on the right hand side of the main entry. M. Bean, superintendent and mine boss.

BLACK DIAMOND,

opposite Winifrede Junction, on the line of the K. & M. R'y, operated by the Peel Splint Coal Company. There is a part of this mine known as the new drift that is very wet. The main part of the mine, however, is in good condition as to drainage. On my last visit, March 28th, I found the power of the furnace not sufficient to properly ventilate the entire mine. Since that time openings have been made to the surface and natural ventilation used for the present. I recommended the use of a fan, of which the superintendent spoke favorably. A. P. Shearer, mine boss.

PEERLESS MINE

is one mile above Winifrede Junction, on the line of the C. & O. R'y. Operated by S. W. Bard. Ventilated by a fan which produces a splendid current; this, however, has not been properly controlled and a considerable amount of the air wasted before it reached the workings. On my last visit, April 12, a new mine boss had just assumed charge and the indications were that the condition of the mine would be improved. James Sullivan, mine boss.

ACME,

on the Ten-Mile fork of Cabin Creek, operated by the Stevens Coa Co. Ventilation is natural, though very good. Dan S. Holmes mine boss

KEYSTONE,

on One-Mile fork of Cabin Creek, operated by the Stevens Coal Co. This mine is ventilated by a fan, which gives good results. John F. Holmes, mine boss.

EMPIRE,

a new mine just opened, and is located three-fourths of a mile North of Keystone—the same seam of coal. This mine will begin shipping coal some time next winter.

NORTH COALBURG,

located on the North side of the Kanawha River opposite Coalburg, operated by the Peabody Coal Company. Ventilation is natural and is by no means sufficient. I insisted that this company should build a furnace, but they do not seem disposed to respect the Mining laws. J. J. Neylan, mine boss.

COALBURGH, NOS. 1, 2 AND 3,

located on the C. & O. R'y, eighteen miles above Charleston, and operated by the Robinson Coal Company. No. 1 mine has only a few miners employed therein and is ventilated by natural causes, which are sufficient. The only work now being done in No. 2 is the drawing of pillars. The ventilation in this mine is natural, though very good. No. 3 mine is a new mine, opened in the Crown Hill seam, and is ventilated by a temporary furnace. On my last visit I found that the trap doors were being neglected and that the current produced by the furnace was wasted and not properly conducted through the mine. J. C. McK. Richardson, mine boss.

PEABODY NO. 2.

located at Peabody and was recently operated by the Monarch Coal Company, but is now temporarily abandoned.

MONARCH MINE

Peabody. Operated by the Monarch Coal Company. Same seam of coal operated at North Coalburgh by the Peabody Coal Company. All the entries driven in this vein have struck a horse back or thin coal and the ventilation is not good. I should have required this company to have built a furnace or fan some time ago but the prospects of workable coal were not good enough to justify expensive improvements. Pat Neylan, mine boss.

CEDAR GROVE PEERLESS

located at Cedar Grove, opposite the town of Eastbank, operated by the Cedar Grove Mining Company. It is opened in the Blacksburgh seam which is only about twenty feet above low water of Kanawha river. Considerable gas in this mine but there has never been an accident resulting from it. Ventilated by a fan, and on my last visit I have found the air current under good control and all parts of the mine well ventilated. J. S. Miller, mine boss.

CEDAR GROVE

located a short distance above Cedar Grove Peerless, opened in the Cedar Grove seam. Operated also by the Cedar Grove Mining Company. Mine is ventilated by a fan which produces a splendid current, a great portion of which at times has been wasted by leakage through old workings which is difficult to control. On my last visit there were stoppings put in and leaks stopped which improved the condition so much as to leave no room for complaint. J. S. Miller, mine boss.

KELLEY'S CREEK,

one mile above Cedar Grove at the mouth of Kelley's Creek, but is now idle.

CHESTNUT POINT

at Eastbank. Operated by the East Bank Coal & Coke Company. Ventilated by a furnace and has generally been found in good condition, but on my last visit I found the current a little weak in some parts of the mine. J. H. Jackson, mine boss.

CHAMPION NO. 1,

one mile east of East Bank, and was opened by G. W. Champ. There is a new company now making preparations to start this mine.

CHAMPION NO. 2,

at the same place as Champion No. 1. and will be operated by the same company soon.

BELMONT NO. 1,

one and one-fourth miles east of East Bank. Operated by the Belmont Coal Company. Is opened in the Coalburg seam and is ventilated by a furnace. Considerable leakage and some of the air courses are somewhat obstructed, consequently the entire current produced by the furnace does not reach the workings of the mine; however, the ventilation is fair. P. H. Embleton, mine boss.

BELMONT NO. 2,

near Belmont No. 1, but is operated in the Crown Hill seam and operated by the same company. Most all the work in this mine is pillar drawing and the ventilation is natural. There has been no complaint regarding the ventilation in this mine. P. H. Embleton is mine boss.

CROWN HILL, NOS. 1, 2 AND 3,

a short distance east of Belmont, on the C. & O. Railway, operated by the New York and West Virginia Coal and Iron Company.

No. 1 mine is opened in the Coalburgh seam and ventilated by a furnace, which is fair.

No. 2 mine is opened in the Crown Hill seam, which is above No. 1 mine. This is all pillar work and the ventilation is as good as could be expected under the circumstances.

No. 3 mine is opened in the Winifrede seam, which is below No. 1 mine. This mine is ventilated by a temporary furnace, which gives very good results. This company has a fan ready for this mine, which will be put in in a short time. Brewer Smith is superintendent and John Nugent, mine boss.

RIVERSIDE,

at Lock No. 3, on the Enterprise property, operated by the Riverside Coal Company—Cedar Grove seam. Mine has only been opened a short time and there is neither a fan or a furnace built as yet. James Arrington, mine boss.

CHESAPEAKE,

on Lower Creek, near Handley, operated by the Chesapeake Mining Company. Ventilated by an 8-foot fan. On my visit, March 30, 1893, I found the mine in first-class condition. Alex. Thompson, mine boss.

KANAWHA MINES, NOS. 1, 2, 3 & 4,

about one mile East of Handley, on the line of the C. & O. R'y, operated by the Consolidated Mining Company. No. 1 Mine is in the Winifrede seam. The principal work done in this mine is drawing pillars. Ventilation is natural and is not very good.

No. 2 is in the Coalburg seam, and is ventilated natural. I found the ventilation much improved on my last visit.

No. 3 is in the Coal Valley gas seam, but is not being worked extensively.

No 4 is in the Crown Hill seam and is about 11 feet in thickness. The coal seems to be of an inferior quality, and has not been operated extensively as yet. Ed. Pinkney, mine boss.

UNION NO. 1,

short distance above Kanawha mines, operated by the Union Coal Company. This mine is opened in the Coal Valley gas seam. Ventilated by natural causes. Ventilation is only fair. Frank Allen, mine boss.

MOUNT MORRIS,

a short distance up Morris' creek, and is now idle.

UNION NO. 3,

is opened in the Winifrede seam. Operated by the Union Coal Company. Located a short distance up Morris creek. The coal is lowered by an incline, it is then hauled through Union No. 1 mine, and lowered by that incline to the tipple, on the C. & O. Railway. Charles Trudgen is superintendent.

EXCELSIOR,

Morris creek, on a branch line of the C. & O. Railway. Not in very good condition as to ventilation.

BLOCK NO. 5,

was operated by the Cannelton Coal Co, but is now idle.

CANNELTON NEW MINE.

Smithers' Creek, is reached by a narrow guage railroad. Operated by the Cannelton Coal Company. The coal is an excellent quality of cannel. The ventilation is fair.

CANNELTON NO. 2,

new mine opened in the Coal Valley gas seam. Located about two miles up Smithers' Creek. Operated by the Cannelton Coal Company. Is said to be in the best shape of any mine in the Kanawha Valley; all the entries in this mine are absolutely straight and the pillars are of sufficient thickness to be drawn with safety and to insure practically all of the coal at a reasonable expense. Ventilated by a furnace at present, but it is the intention of the company to build a fan as soon as the mine is developed sufficient to require it. Geo. W. Newby is mine boss.

Fayette County.

EUREKA MINE

on Morris Creek, one and one-half miles from the C. & O. Ry., and is reached by a branch line from same. It is operated by M. T. Davis & Co. Worked on the double entry system The ventilation and drainage in the mine, has generally been found good. It is ventilated by a ten foot fan with good results. Geo. Fraser, mine boss.

MECCA MINE

on Morris Creek below Eureka, operated by Mecca Coal & Coke Co.

(Carver Bros.) The ventilation in this mine has not generally been found good. John H. Tasker, mine boss.

STRAUGHAN MINE

Montgomery, operated by the Coal Valley Mining Co. Ventilation has generally been found good. E. T. Straughan, mine boss.

CRESCENT No. 1,

one mile above Montgomery. Operated by W. R. Johnson. Coal is hauled by a tail rope with good success. Ventilation good. John A. Abbott, mine boss.

CRESCENT No. 2,

at Crescent, operated by W. R. Johnson. Ventilation and drainage medium. Philip Davis, mine boss.

EDGE WATER NOS. 1 AND 2,

about 1½ miles above Montgomery, operated by Carver Brothers. Ventilation in mine No. 1 has generally been found good, in No. 2 not so good. John E. Carver and J. T. Thomas, mine bosses.

EAGLE,

on the C. & O. R'y, about two miles above Montgomery, operated by the Wyant Coal and Coke Co. Ventilation and drainage very good. John C. Bostick, mine boss.

ST. CLAIR NOS. 1 & 2,

one eigth mile above Eagle, operated by the St. Clair Co. Ventilation and drainage fair. Jas. F. Riley, mine boss.

DIAMOND,

short distance above St. Clair. Operated by Wyant Coal and Coke Co. Mine worked in the Coal Valley or gas seam. Ventilation and drainage good. John C. Bostick, mine boss.

POWELTON,

about seven miles up Armstrong Creek. Operated by The Mount Carbon Co. L't'd. The ventilation is only medium. Evan Powell, managing director; D. T. Evans, assistant superintendent; and J. I. Absalom, mine boss.

GREAT KANAWHA,

just above the mouth of Armstrong Creek. Operated by the Great Kanawha Colliery Company L't'd. Ventilation is not very good. John Holmes, mine boss.

MILL CREEK,

now abandoned.

ANSTED NOS. 1 & 2,

at the head of Mill Creek, which empties into New River at Hawks Nest, is reached by a standard guage railroad about four miles long. Operated by the Gualey Mountain Coal Co. Ventilation and drainage fair. J. W. Stranghan, mine boss.

GAYMONT.

about one mile east of Hawk's Nest on the C. & O. R'y. Operated by Deitz & Masterson Coal and Coke Company. J. W. Masterson, mine boss.

SUNNYSIDE

abont one-half mile east of Gaymont. Operated by the Thomas Coke Company Ventilation and drainage very good. A. S. Pike, mine boss.

ELMO,

about one mile east of Sunnyside. Operated by W. A. Burke Coal Company. Ventilation and drainage was not very good at the time I visited the mine, but will be better when they get the furnace finished. E. Jackson, mine boss.

FAYETTE,

Fayette Station on the C. & O. R'y. Operated by Fayette Coal & Coke Co. The ventilation is not very good owing to bad management and the use of sail cloth instead of trap doors. J. C. Grisinger, mine boss.

NUTTALLBURG,

on the C. & O. R'y, east of Fayette Station. Operated by the Nuttallburg Coal & Coke Co. Ventilation and drainage very good. Geo. Holland, mine boss.

KEENEY'S CREEK,

on the C. & O. R'y, one mile east of Nuttallburg. Operated by the

Nuttallburg Coal & Coke Co. Ventilation is good. Solomon Holland is mine boss.

CAPERTON,

about one mile east of Keeney's Creek on the C. & O. R'y. Operated by Wm. Beury, Cooper & Co. Ventilation and drainage fair. M. Kraus, mine boss.

NEW RIVER,

a short distance east of Caperton. Operated by New River Coke Company. Ventilation and drainage fair. Thos. Gosway, mine boss.

SEWELL,

on Man's Creek nine miles from Sewell Station. Operated by the Longdale Iron Company. Ventilation and drainage very good.

FIRE CREEK,

three miles east of Sewell Depot on the C. & O. R'y. Operated by Fire Creek Coal and Coke Company. Ventilation and drainage, good. David Stoddard, mine boss.

CENTRAL,

a short distance east of Fire Creek. Operated by the Central Coal Company. Ventilation and drainage fair. P. J. Riley, mine boss.

ECHO,

a short distance east of Central, operated by Wm. Beury, Cooper & Co. Ventilated by a fan with good success. The endless rope haulage is successfully worked in this mine.

RUSH RUN,

on the north side of New River, about 2½ miles west of River View, on a branch line of the C. & O. Railway, which crosses New River, at the mouth of Long Creek, near River View. Operated by the Rush Run C. & C. Company. Ventilation, medium. Jos. Switzer, mine boss.

DIMMOCK,

a short distance west of River View, on the C. & O. Railway. Operated by the Dimmock Coal & Coke Company. It is worked on the single entry system and ventilated by a furnace. Ventilation fair. G. J. Brunk, mine boss.

THURMOND,

about one and one-half miles west of River View, on a branch line of the C. & O. R'y., on the north side of New River. Operated by the Thurmond Coal Company. Ventilation is natural. Ventilation and drainage fair. W. H. Cobb, mine boss.

STONE CLIFF, NOS. 1 AND 2, AND TUNNEL,

about two miles east of Riverview. Operated by Beury Coal & Coke Co. Ventilation very good. W. G McDaniel, mine boss.

BEECHWOOD AND KEYSTONE,

about one mile East of Stone Cliff. Operated by Beechwood Coal & Coke Co. Ventilation medium. George White, mine boss.

ALASKA,

two miles East of Stone Cliff, on the C. & O. R'y. Operated by the Alaska Coal & Coke Co. Coal is hauled by a locomotive. Ventilation is good. W. A. Brown mine boss.

SLATER,

operated by the Sterling Coal & Coke Co. Ventilation has generally been found bad; don't seem to regard the importance of good ventilation. E. J. Robertson, mine boss.

QUINNIMONT,

one mile East of Prince Station, on the C. & O. R'y. Operated by the Quinnimont Coal & Iron Co. Ventilation very good. John McIntosh mine boss.

FINLOW,

directly opposite East Sewell. Operated by the Brooklyn Coal Co. F. Howald manager.

RED ASH,

on the North side of New River, opposite Echo, on the line of the North Side extension of the C. & O. R'y. Operated by the Red Ash Coal Co. Jno. Laing, mine boss.

ROTHWELL,

seven miles from Nuttall, operated by the Rothwell Coal Co. A new mine not shipping any coal as yet. Chas. Higgins, mine boss.

CUNARDS

opposite Sewell, on extension of C. & O. on west side of New river Operated by Cunard Coal Co. Thos. Scott, mine boss.

NEW RIVER

west side of New River; tipple on east side connected by cable across the river. Operated by New River C. & C. Co. It is not now in operation.

HANEY,

on Upper Loup Creek R. R., five miles from Thurmond. Not in operation. A. P. Geleson, mine boss.

STAR,

on Upper Loup Creek R. R., 5½ miles from Thurmond. Operated by the Star Coal & Coke Co. Not shipping any coal yet. David Stoddart, mine boss.

COLLINS,

Upper Loup Creek R. R., 6 miles from Thurmond. Operated by Collins Colliery Co. Not shipping coal yet.

DUN LOUP

on Upper Loup Creek R. R., 7 miles from Thurmond. Operated by Dun Loup Coal & Coke Co. New mine, not shipping coal yet. M. M. Warren, superintendent.

MACDONALD,

new mine on Upper Loup Creek R. R., 8 miles from Thurmond. Operated by Mcdonald Colliery Co.

BOONE,

on Keeney's Creek short line railroad four miles from Nuttall. Operated by Boone Coal and Coke Company. J. Grissinger, mine boss.

BALLINGER,

on Keeney's Creek short line railroad six miles from Nuttall. Operated by Ballinger Coal and Coke Company. Geo. Holland, mine boss.

MASTERS,

on Keeney's Creek short line railroad six and one-half miles from Nuttall. Operated by Masters Coal and Coke Company. W. R. Holland, mine boss.

Raleigh County.

ROYAL,

in Raleigh county opposite Prince Station. Operated by the Royal Coal and Coke Company. Ventilation good.

Mercer County.

RELIANCE NO. 1,

on Simmons' Creek, one-quarter mile above Caswell mine. Operated by the Booth, Bowen C. & C. Company. Ventilated by a fan, with good results. J. P. Bowen, superintendent, and T. E. Thomas, mine boss

RELIANCE NO. 2,

one-eighth mile above No. 1. Operated by the same Company. Ventilation good. T. E. Thomas, mine boss.

HEMLOCK,

on Simmons' Creek, about one-half mile below Caswell mine. Operated by Caswell Creek C. & C. Company. Ventilation good. Wm. Cook, mine boss.

CASWELL,

on Simmons' Creek, one mile from the Buckeye mine. Operated by the Caswell Creek C. & C. Company. Ventilation very good. M. Gilmore, mine boss.

BUCKEYE,

on the east fork of Simmon's Creek. Operated by Buckeye Coal & Coke Co. Ventilation is good. Thomas Gent, mine boss.

GOODWILL, NOS. 1 AND 2,

on Flipping Creek, operated by the Goodwill Coal & Coke Co. Ventilation and drainage good. Levi Workman and J. W. Foy, mine bosses.

LOUISVILLE, NOS. 1 AND 2,

located on west fork of Flipping. Operated by the Louisville Coal & Coke Co. Ventilated by a fan, with good results. Wm. Herbertson, mine boss.

STERLING

near the east end of Elkhorn tunnel. Operated by the Mill Creek Coal & Coke Co. Ventilation good. Bryan Dennen, mine boss.

COALDALE,

west end of Elkhorn tunnel. Operated by the Coaldale C. & C. Co. Ventilation good. Jas. A. Williams, mine boss.

POCAHONTAS EAST MINE.

The opening of this mine is in the State of Virginia but the workings are in West Virginia. Ventilation and drainage first class. Operated by the South West Virginia Improvement Co. Henry Reece, mine boss.

McDowell County.

ELKHORN,

about two miles east of Elkhorn tunnel, on the Elkhorn river. Operated by the Elkhorn C. & C. Company. Ventilation has always been found good. J. A. Caldwell, mine boss.

SHAMOKIN,

about one-half mile below Elkhorn mine. Operated by the Shamokin C. & C. Company. Ventilation and drainage are good. Jno. Carmell, mine boss.

NORFOLK,

on the east fork of Elkhorn, opposite the Shamokin mine. Operated by the Norfolk C. & C. Company. Ventilation and drainage is excellent. Jas. W. Devinney, mine boss.

LICK BRANCH,

one and one-half miles below Norfolk, operated by the same company. Ventilation is good. Wm. Moore, mine boss.

TURKEY GAP,

one-half mile below Lick Branch, operated by the Turkey Gap C. & C. Co. Ventilation and drainage good. James Hopkins, mine boss.

CROZER NOS. 1 AND 2.

No. 1 mine is a short distance below Turkey Gap on the opposite side of Elkhorn, operated by the Crozer Coal & Coke Co. Ventilated by a fan with good success.

No. 2 mine is about one-eighth mile above No. 1. Operated by the same company. Ventilation and drainage is good in both mines. F. J. Morgan, general manager; W. H. Devinney and H. Frankenfield, mine bosses.

HOUSTON,

about one-half mile below Crozer. Operated by the Houston Coal & Coke Co. Locomotive haulage. Ventilation good. Benj. Lewis, mine boss.

POWHATAN,

one mile below Houston, on Elkhorn river, operated by the Powhatan Coal & Coke Co. Ventilation and drainage good. Jas. Hetherman. mine boss.

LYNCHBURG,

about one mile below Powhatan. Operated by the Lynchburg Coal & Coke Co. Ventilated by a fan, with good results. Wm. Hetherman, mine boss.

UPLAND.

On Elkhorn, opposite the Houston mine. Operated by the Upland Coal & Coke Co. Ventilation and drainage good. Jacob K. Flanner, mine boss.

ALLEGHANY,

about one mile below Lynchburg, on Elkhorn river. Operated by the Algoma Coal & Coke Company. Ventilation and drainage good. W. J. Pritchard, mine boss.

GILLIAM,

on the north fork of Elkhorn, one mile from Alleghany. Operated by the Gilliam Coal & Ckee Company. John Woolcock, mine boss,

KEYSTONE,

on Elkhorn, one mile below Alleghany. Operated by the Keystone C. & C. Company. John Murrey, mine boss.

EMPIRE,

at the mouth of Elkhorn river, about four miles from Keystone. Operated by the Empire C. & C. Company. Benjamin Williams, mine boss.

TIDEWATER,

on Elkhorn. Operated by the Tidewater Coal & Coke Co. T. L. Henritze, general manager; J. R. Booth, mine boss.

List of new mines operated in McDowell County: Roanoke, Roanoke Coal & Coke Co.; Arlington, Arlington Coal & Coke Co.; Rolfe, Rolfe Coal & Coke Co.; McDowell, McDowell Coal & Coke Co.; King George, Greenbrier Coal & Coke Co., Pulaski, Pulaski Iron Co.; Elk Ridge, Elk Ridge Coal & Coke Co.; Eureka, Eureka Coal & Coke Co.; Shawnee, Shawnee Coal & Coke Co.; Peerless, Peerless Coal & Coke Co.; Bottom Creek, Bottom Creek Coal & Coke Co.; Angle, Norfolk Coal & Coke Co.; Delta, Norfolk Coal & Coke Co.

Wayne County.

COALDALE SPLINT,

about forty miles above Kenova, on the line of the Norfolk & Western Ry., operated by the Coaldale Mining and Manufacturing Co. Ventilation and drainage very good, John Dilcher, mine boss.

HOPE,

about two miles above Coaldale Splint, on the N & W. Ry. Abandoned.

FERGUSON,

about one mile above Hope. Abandoned.

DUNLOW,

about five miles above Ferguson, operated by the Dunlow Coal Co. Ventilation and drainage both good. Jno. P. Kelley, mine boss.

TABLE A.

Showing Fatal Accidents in the Second and Third Districts of West Virginia for the Year Ended June 30, 1893.

NAME.	WHERE KILLED.	DATE OF ACCIDENT.	OCCUPATION.	HOW KILLED.
S. V. Tucker	Plymouth,	April 26, 1893.	Driver	Run over by cars.
Charles A. Morris	Bancroft	January 24, 1893	Roadman	Fall of slate.
E. V. and Charles Bailey	Florence	July 22, 1892	Miners	Powder explosion.
R. Woodward	Florence	January 24, 1893	Superintendent	By machine falling on him.
W. H. Brown	Florence	March 28, 1893.	Miner	Fall of slate.
Othis Thomas	Campbell's Creek		Miner	Fall of slate.
Frederick Platt	Kanawha Mines	December 9, 1892	Miner	Fall of rock.
Hiram Clendenen	Keystone	July 23, 1892	Miner	Fall of coal.
Crede Clark	Union	March 23, 1893.	Driver	Fall of slate.
John Lawson	Eureka	May, 1893	Miner	Fall of slate.
Jesse Smith	Crescent	February 22, 1893	Miner	Fall of coal.
Wm. D Douglas	Edgewater	November 4, 1892	Miner	Fall of coal.
Barney Fitzer	P welton	September 2, 1892	Miner	Fall of coal.
Stephen Simms	Ansted	December 1, 1892	Trackman	Fall of slate.
H. B. Whitlock	Dimmock	April 9, 1893	Miner	Fall of slate.
Ben Pratt	Stone Cliff	April 27, 1893	Miner	Fall of slate.
Thornton Lewis	Keystone	September 5 1893	Miner	Fall of slate.
Isaiah Johnson	Keystone	June 25, 1893	Miner	By monitor.
A. C. Ford	Keystone	April 11, 1893.	Driver	By mine car.
N. F. Hashbarger	Reliance	August 30, 1892	Driver	Fall of coal.
Dan Nabors	Reliance	August 22, 1892	Miner	Fall of slate.
Andrew Comstock	Reliance	November 4	Miner	By fall top coal.
Sam Calloway	Reliance	March 13, 1892	Miner	By fall slate.
Fred Williams	Reliance	March 13, 1892	Miner	By fall slate.
George Murphy	Reliance	March 13, 1892	Miner	By fall slate.
Wm. Smith	Caswell	January 5, 1893.	Miner	By fall slate.
Richard White	Caswell	March 17, 1893.	Miner	By fall coal.
Edward Bone	Buckeye	September 12, 1892	Driver	By fall coal.
Royt Wooding	Gordwill	September 6, 1892	Driver	By fall slate.
Edward Minnick	Goodwill	May 17, 1893	Laborer	By fall slate.
Kerap Moses	Sterling	September 6, 1892	Trapper	Clothes caught fire.
Peter Cobbs	Sterling	November 3, 1893.	Driver	Clothes caught fire.
James Kindry	Sterling	February 3, 1893.	Miner	Fall of slate.
H. Jennett	Sterling	May 2, 1893	Miner	Fall of slate.
J. S. Davis	Elkhorn	March 10, 1893	Miner	By trip of cars.
E. W. Cox	Turkey Gap	January 22, 1893	Engineer	By cars.
Geo. W. Johnson	Turkey Gap;	April 30, 1893	Miner	By fall of coal.
Mitchell Shaffeon	Crozer	July 6, 1893	Miner	By fall of coal,

TABLE A—Continued.

NAME.	WHERE KILLED.	DATE OF ACCIDENT.	OCCUPATION.	HOW KILLED.
Jerome Edwards	Crozer	September 30, 1892	Miner	By fall of slate.
William Duffy	Crozer	November 11, 1892		By fall of slate.
Milton Turner	Crozer	February 22, 1893		By fall of slate.
Andrew Mona	Houston	September 6, 1892		By fall of coal.
Wm. Morgan	Houston	April 19, 1893		By fall of coal.
Sydney White	Powhattan	October 7, 1892		By fall of slate.
Wm. Arnold	Powhattan	December, 1892		Burned by powder.
Norval Crockett	Powhattan	February 15, 1893		By fall of slate.
Peter Coalcoop	Lynchburg	January 28, 1893		By fall of coal.
John Terrell	Upland	October 10, 1892		By fall of coal.
A. W. Archer	Upland	May 23, 1893	Driver	On trip of cars.
Powell Ayers	Gilliam	September 23 1892	Miner	By fall of coal.
Lee Boston	Gilliam	January 12, 1893		By fall of slate.
James Waller	Gilliam	March 11, 1893		By fall of coal.
J. B. Hunter	Gilliam	April 10, 1893		By fall of slate.
Joseph Poska	Gilliam	May 25, 1893		By fall of slate.
John Fredock	Gilliam	April 28, 1893		By cars.
Jerry Brown	Empire	July 7, 1892		By fall of slate.
Evan J. Williams	Empire	August, 1892		By fall of slate.
R. F. Cowans	Empire	September 20, 1892		By fall of slate.
Henry Taylor	Bottom Creek	September 7, 1892		By fall of slate.
Edward Taff	Tidewater	August 19, 1892		By fall of slate.

TABLE B.

Showing Non-Fatal Accidents in the Second and Third Districts of West Virginia for the Year Ending January 30, 1893.

Name.	Where Accident Occurred.	Da'e.	Occupa'ion	Nature of Injury.	How Injured.
A. C. Kelley	Plymouth'	July 8, 1893	Miner.	Slight	By fall of slate
Dan Perry	Campbell's Creek		"	Eye injured	By sliver of coal
——— Terrell	"			Foot mashed	Fall of coal
Charles McKisson	"		"	Foot Mashed	Fall of coal
Alex Johnson	"			Finger mashed	Fall of coal.
Pat Hatterman	"		"	Leg Hurt	Fall of sla'e.
Charles Massey	B'ack Diamond	December 10 189'	"	Leg Hurt	Fall of slate.
Harry Conway	Chestnut Point	June 29, 1892	"	Leg Hurt	By cars.
John Hunt	Belmont	May 17, 1893	Driver.	Finger hurt	By cars.
James Waldron	"	May 22, 1893	"	Finger hurt	By cars.
Andersen Poff	"	May 19, 18 3	"	Shoulder hurt	By cars.
Bayless Adkins	"	May 24, 1893.	"	Foot hurt	By cars
Edward Jackson	Chesapeake	June 122, 1893	Miner.	Leg hurt	By cars on siding.
Rob't Franklyn	"	June 22, 1893	"	Head bruised	By cars on siding.
Thos. Jarrett, jr.	"	June 1, 1893.		Leg & arm broken.	By fall slate.
James Abbot	Union	October 18, 1893.	"	Shoulder broken	By fall coal.
Charles Booth	Eureka	November 4, 1892.	"	Back hurt.	By fall slate.
John M. Terrell	"	March 17, 1893		Foot hurt.	By fall s'ate.
Miles Ormandy	"	March 25, 1893	"	Leg broken	By fall slate.
George Terrell	Mecca	November , 1892.	"	Head hurt	Kicked by mule.
Lewis Wright	"	Febuary , 1893.	"	Thumb cut off	By fall of slate.
Theodore Bolins.	Crescent	February 3, 1893		Leg broken	By fall of slate.
Frank McCutcheon	"	October 15, 1892.	Driver.	Leg broken	By mine car.
Ben Gulley	"	December 29, 1892.	Miner.	Bruised.	By incline car.
Mike Long.	"	December 29, 1892	"	Bruised	By incline car.
R. C. Neibors	Edgewater	July , 1892.	"	Bruised	Fall of slate.
James Eagle	Diamond	June 9, 1893.	Driver	Nose broken	By mule.
John Page	"	June 24, 1893	"	Nose broken.	By mule.
John King	"	May 29, 1893.	Miner.	Hand broken	By fall coal.
W. E. King.	"	May 29, 1893.		Leg broken	By fall coal.
Charles McClung	Anstead			Leg broken	By cars.
Joseph Harris	Fire Creek	March 13, 1893.	Miner.	Back injured	By fall of slate.
Elias Heaton.	Rush Run	December 9, 1892.	"	Fractured leg	By fall of slate.
W. E. Beverly	"	January 31, 1893	"	Crushed	By fall of slate.
Grant Hopkins	Dimmock	March 21, 1893.	"	Leg hurt	By fall of slate.
Henry Dove	"	April 6, 1893.	"	Breast hurt	By fall of slate.
Jim Dunkley	"			Back hurt	By mine car.
Del. LaFellato.	Thurmond.	July 7, 1892	Laborer	Leg broken	By mach'ne

TABLE B—Continued.

Name.	Where Accident Occurred.	Date.	Occupati'n	Nature of Surgery.	How Injured.
H. Ferguson	Thurmond	October 10, 1892		Hand broken	
Ed. Bacon	Thurmond	October 10, 1892		Hand hurt	By fall of slate.
Charles Sinks	Thurmond	November 10, 1892		Knee hurt	
Paul Tyree	Thurmond	November 10, 1892		Hand hurt	
Wm. Payne	Thurmond	November 10, 1892		Thighs hurt	
Ben Teel	Stone Cliff	October 31, 1892	Driver	Arm fractured	
Frank Palen	Stone Cliff	December 12, 1892		Leg broken	By cars.
Smith Leadbetter	Slater		Driver	Jaw broken	By mule.
J. B. Pittman	Slater		Miner	Knee hurt	By coal pick.
J. W. Butler	Red Ash	November 17, 1892	Miner	Ribs broken	By fall of slate.
Mathew Long	Red Ash	March 17, 1893	Miner	Ribs broken	By fall of slate.
Alex. Jones	Caswell	July 12, 1892	Miner	Leg broken	By fall of slate.
G. W. Bowling	Caswell	January 5, 1893	Miner	Hips	By fall of slate.
George Howard	Buckeye	October 8, 1892	Driver	Leg broken	By mine car.
Jas. Simms	Buckeye	January 3, 1893	Miner	Leg broken	By fall of slate.
J. M. Terry	Buckeye	April 14, 1893	Miner	Head	By mine car.
W. D. Burdett	Goodwill	September 20, 1892		Leg broken	
Jordan Hunter	Goodwill	May 26, 1893	Miner	Shoulder	By fall of slate.
Jas. A. Curtner	Sterling	August 13, 1892	Miner	Leg broken	By fall of slate.
Wm. Gibson	Sterling	February 3, 1893	Miner	Leg broken	By mine car.
Alex. Allen	Elkhorn	July 28, 1892		Injured	By fall of slate
J. F. Dillard	Elkhorn	August 18, 1892	Driver	Injured	By mine car.
Wm. Campbell	Elkhorn	December 5, 1892	Miner	Injured	By fall of slate.
Henry Lechlitner	Elkhorn	August 23, 1892	Miner	Injured	By fall of slate.
Jas. Cork	Elkhorn	July 13, 1892	Miner	Injured	By fall of slate.
Jas Ventors	Norfolk	September 20, 1892	Laborer	Loss of leg	By fall of coal.
Moses Payne	Norfolk	October 14, 1892	Miner	Leg broken	By fall of coal.
Wm. Deshman	Lick Branch	July 25, 1892	Miner	Injured	By mine cars.
Wm. Mason	Lick Branch	August 5, 1892	Miner	Leg broken	By fall of slate.
John Smith	Lick Branch	August 12, 1892	Driver	Foot injured	By fall of slate.
Robert White	Lick Branch	September 1, 1892	Miner	Side injured	By fall of coal.
Grant Allen	Lick Branch	October 1, 1892	Miner	Shoulder injured	By fall of slate.
Henry Dudley	Lick Branch	February 4, 1893		Foot injured	By mine car.
Jessie Parker	Lick Branch	February 8, 1893		Arm injured	
Elmo Wilkinson	Lick Branch	March 8, 1893	Miner	Finger injured	By mule.
Jas. Brodway	Lick Branch	March 21, 1893	Miner	Shoulder injured	By fall of coal.
Henry Ownby	Lick Branch	February 14, 1893	Carpenter	Arm broken	By a fall.
Joseph Mack	Lick Branch	April 20, 1893	Miner	Injured	By fall of slate.
George Lipscomb	Lick Brnch	May 22, 1893	Miner	Head injured	By fall of coal.
Parker Gaines	Lick Branch	January 31, 1893	Miner	Leg injured	By fall of coal.
John Grogan		May 5, 1893		Back injured	By fall of slate.
Miles Gilhon	Turkey Gap	August 11, 1892	Miner	Leg broken	By fall of coal.

TABLE B—Continued.

Name.	Where Accident Occurred.	Date.	Occupati'n	Nature of Surgery	How Injured.
John Lewis	Turkey Gap	August 12, 1892	Miner	Foot injured	By fall slate.
Henry Lee	Turkey Gap	August 24, 1892	Driver	Leg broken	By mine cars.
M. Wood	Crozer	September 30, 1892	Miner	Injured	By fall slate.
Hugh Crockett	Powhattan	January, 1893	Miner	Loss of leg	By fall slate.
Wm. Boyd	Lynchburg	September 28, 1892	Miner	Leg broken	By fall slate.
John Jeffries	Lynchburg	September 28, 1892	Miner	Injured	By fall slate.
Smith Moore		October 31, 1892	Miner	Leg broken	By fall slate.
John Harvey	Alleghaney		Miner	Loss of leg	By mine car.
G. H. Miller	Gilliam	January 6, 1893		Leg broken	By fall slate.
John Rust	Gilliam	January 7, 1893		Head cut	By fall slate
James Chanler	Gilliam	January 7, 1893	Miner	Head cut	By fall slate.
Raleigh Shelton	Gilliam	May 1st, 1893	Driver	Leg cut	By mine car.
Wm Holland	Keystone	July 26, 1893	Miner	Leg amputated	By fall slate.
J. E. Watters	Empire	February, 1893	Driver	Leg amputated	By mine car.
Lesley Calloway	Empire	February, 1893	Miner	Slight injury	By fall slate.
M. G. Cundiff	Empire	February, 1893	Miner	Slight injury	By fall slate.
Jacob Jackson	Pulaska		Miner	Face burned	By dynamite.
George Grant	Peerless		Laborer	Leg broken	By cars.
Lewis Brown	Bottom Creek			Hips injured	
E. L. Schooley	Bottom Creek			Hips injured	
J. B. McIves		April 18, 1893		Hips injured	By fall slate.
G. N. Moore	Tidewater			Leg broken	By fall slate.
Nehemiah Kitchen	Dunlow	May 2, 1893		Jaw broken.	By fall slate.

TABLE C.

Showing the Location of Collieries in the Second District of West Virginia.

NAME OF COLLIERY	NAME OF OPERATOR.	NAME OF SUP'T.	LOCATION—CO.	P. O. ADDRESS.
Flint Hill	S. M. Flesher	L. F. Roush	Mason	Hew Haven.
Hartford City	Hartford City Salt Co.	D. E. Newton		Hartford City.
California	Juhling Coal Co.	Wm. Juhling		Hartford City.
Liverpool	Liverpool Salt & Coal Co.	Chas. Clifton		Hariford City.
McDaniels	Pierce Bros.	Jno. F. Pierce		Hartford City.
Hope	Hope Salt & Coal Co	E'ward Edwards		Mason City.
Sterling	Sterling Coal Co.	W. E. Edwards		Clifton.
New Haven	Consumers' Coal & Mining Co.	W. W. Jackson		Spilman.
Camden	Consumers' Coal & Mining Co	H. E. Spilman		Spilman.
Plymouth	Carver Coal Co	Jas. Carver	Putnam	Plymouth.
Oak Hill				
Bancroft	Kanawha & Lake Erie Coal Co.	Thos. B Bancroft	Putnam	Bancroft.
Queen City No. 3	Queen City Coal Co.	C. W. Harper		Queen City.
Florence	The Marmet Co.	A. M. Smith		Raymond City.
Black Band	Black Band Mining & M'f'g Co.	A. M. Wooldridge	Kanawha	Spring Hill.
Campbell's Creek	Campbell's Creek Coal Co.	J. E. Dana		Malden.
George's Creek				
Black Hawk				
Dickinson's.				
Winifrede, Nos 1, 2 and 3	Winifrede Coal Co	R. B. Cassady		Winifrede.
Black Diamond	Peel Splint Coal Co.	Z. T. Krieger		Lewiston.
Lewiston	Lewiston Coal Co.	M. Beane		Lewiston.
Peerless	S. W. Bard	W. B. Stevens		Peerless.
Acme	Stevens Coal Co.	E. F. Stevens		Coalburg.
Keystone	Stevens Coal Co.	E. F. Stevens		Coalburg.
Coalburg	Robinson Coal Co	Arthur Robinson		Coalburg.
Peabody	Peabody Coal Co	J. A Carter		Shrewsbury.
Monarch	Monarch Coal Co	J. D. Harris		Monarch.
Cedar Grove, Nos. 1 and 2	Cedar Grove Mining Co.	J. G. W. Thompkins		Cedar Grove.
Chestnut Point	East Bank Coal & Coke Co.	J. W. Wilson		East Bank.
Belmont	Belmont Coal Co	T. E. Embleton		Crown Hill.
Crown Hill	New York & West Virginia Coal & Iron Co	Brewer Smith		Crown Hill.
Chesapeake	Chesapeake Mining Co.	J. B. Lewis		Handley.
Consolidated	Consolidated Mining Co	Chas. Trudgen		Union Mines.
Union	Union Coal Co.	Chas. Trudgen		Union Mines.
Excelsior				
Cannel	Cannelton Coal Co.	Henry Davis	Kanawha	Cannelton.
No. 2 Gas	Cannelton Coal Co.	Henry Davis		Cannelton.

TABLE C.—Continued.

Showing Location of Collieries in the Second District of West Virginia.

NAME OF COLLIERY.	NAME OF OPERATOR.	NAME OF SUP'T.	LOCATION—CO.	P. O. ADDRESS.
Eureka	M. T. Davis & Co.	M. T. Davis	Fayette	Montgomery.
Mecca	Mecca Coal & Coke Co.,	John Carver.		Montgomery.
Straughan's	Coal Valley Mining Co	J. W. Straughan		Montgomery.
Crescent	W. R. Johnson	T. A. Bartlam		Crescent.
Crescent Block	W. R. Johnson	T. A. Bartlam		Crescent.
Edgewater	Carver Bros.	Enoch Carver		Edgewater.
Eagle	Wyant Coal & Coke Co	Wm. Wyant		Eagle.
St. Clair	The St. Clair Co	M. T. Davis		Eagle.
Diamond	Wyant Coal & Coke Co	Wm. Wyant		Eagle.
Powellton	The Mt. Carbon Co., Ltd	Evan Powell		Powellton.
Great Kanawha	The Great Kanawha Colliery Co, Ltd	Symington Macdonald		Mt. Carbon.
Ansted	The Gauley Mountain Coal Co	Wm. N. Page		Ansted.
Gaymont	Deitz & Masterson Coal & Coke Co.	T. A. Deitz		Hawk's Nest.
Sunny Side	Thomas Coke Co	D. P. Bishop		Hawk's Nest.
Elmo	W. A. Burke Coal Co.	D. H. Pinlay.		Elmo.
Fayette	Fayette Coal & Coke Co.	J. A. Boone.		Fayette Station.
Nuttallburg	Nuttallburg Coal & Coke Co	W. H. Holland		Nuttallburg.
Keeney's Creek	Nuttallburg Coal & Coke Co	W. H. Holland		Nuttallburg.
Caperton	Wm Beury Cooper & Co.	Wm. Dower		Caperton.
New River	New River Coke Co	H Gordon		Caperton.
Sewell				
Fire Creek	Fire Creek Coal & Coke Co	G. H. Caperton, Jr		Fire Creek.
Central	Central Coal Co.	J. R. Seal		Fire Creek.
Echo				
Rush Run	Rush Run Coal & Coke Co.	F. Howard		Rush Run.
Dimmock	Dimmock Coal & Coke Co.	W. H. Thayer.		Thurmond.
Thurmond	Thurmond Coal Co.	Wm. J. Harris.		Concleo.
Stone Cliff	Beury Coal & Coke Co.	O. C. Kubach		Stone Cliff.
Beechwood and Keystone	Beechwood Coal & Coke Co.	Jno. F. Jones		Claremont.
Alaska	Alaska Coal & Coke Co.	Geo Lawton.		Claremont.
Slater Creek	Sterling Coal & Coke Co	Jno. F. Jones.		Coit.
Quinnimont	Quinnimont Coal & Iron Co.	D. C Boyce		Quinnimont
Red Ash	Red Ash Coal Co.	F. Howald.		Fire Creek.
Finlow	Brooklyn Coal Co.	John H. Bell		Sewell Depot.
	Boone Coal & Coke Co	W. F. Boone.		Winona.
	Ballinger Coal & Coke Co.	W. H. Holland		Winona.
	Masters Coal & Coke Co.	A. C. Masters		Winona.
	Haney Coal & Coke Co	M. M. Warren		Glen Jean.

TABLE C.—Continued.

Showing the Location of Collieries in the Second District of West Virginia.

NAME OF COLLIERY.	NAME OF OPERATOR.	NAME OF SUPT.	LOCATION—CO.	P. O. ADDRESS.
	Star Coal & Coke Co	Geo. Jones	Fayette	Glen Jean.
	Collins Colliery Co	— Erberton		Glen Jean.
	Dun Loup Coal & Coke Co	M. M. Warren		Glen Jean.
	Macdonald Colliery Co	Samuel Dixon		Glen Jean.
	Rothwell Coal Co	F. T. Rothwell		Nuttallburg.
	Cunard Coal Co	F. Howald		Sewell.
	New River Coal & Coke Co	R. Jordan		Caperton.
Royal			Raleigh	
Reliance	Booth Bowen Coal & Coke Co	J. P. Bowen	Mercer	Freman's.
Caswell & Hemlock	Caswell Creek Coal & Coke Co	Jenkin Jones		Freman's.
Buckeye	Buckeye Coal & Coke Co	B. Moore		Freman's.
Goodwill	The Goodwill Coal & Coke Co	Phillip Goodwill		Goodwill.
Louisville	Louisville Coal & Coke Co	Justus Collins		Goodwill.
Sterling	Mill Creek Coal & Coke Co	John Cooper		Cooper's.
Coaldale	Coaldale Coal & Coke Co	John Cooper		Cooper's.
Pocahontas—East mine	South-west Virginia Improvement Co	C. E. F. Burnley		Pocahontas, Va.
Elkhorn	Elkhorn Coal & Coke Co	A. Barlow	McDowell	May Beury.
May Beury	Shamokin Coal & Coke Co	Jno. Hunter		May Beury.
Norfolk	Norfolk Coal & Coke Co	Stuart M. Buck		May Beury.
Lick Branch	Norfolk Coal & Coke Co	E. J. Hutchinson		May Beury.
Turkey Gap	Turkey Gap Coal & Coke Co	W. H. McQuail		Ennis.
Crozer	Crozer Coal & Coke Co	F. J. Morgan		Elkhorn.
Houston	Houston Coal & Coke Co	T. E Houston		Elkhorn.
Powhatan	Powhatan Coal & Coke Co	L. E. Tierney		Powhatan.
Lynchburg	Lynchburg Coal & Coke Co	L. E. Tierney		Kyle.
Upland	Upland Coal & Coke Co	E. B. Wilson		Elkhorn.
Alleghany	Algoma Coal & Coke Co.	W. H Thomas		Algoma.
Gilliam	Gilliam Coal & Coke Co	W. O. Brooke		Gilliam.
Keystone	Keystone Coal & Coke Co.	Jno D. Hewitt		Keystone.
Empire	The Empire Coal & Coke Co.	W. D. Ord		Landgraf.
Roanoke	Roanoke Coal & Coke Co	W. S. Cowell		Gilliam.
Arlington	Arlington Coal & Coke Co	Jas. Johnston		McDowell.
Rolfe	Rolfe Coal & Coke Co	Geo. H. Paddock		Jones.
McDowell	McDowell Coal & Coke Co	T. T. Lineaweaver		McDowell.
King George	Greenbrier Coal & Coke Co	Hugh Johnston		McDowell.
Pulaski	Pulaski Iron Co	S. F. Morris		Eckman.
Elk Ridge	Elk Ridge Coal & Coke Co	H. B. Wright		Kyle.
Eureka	Eureka Coal & Coke Co	L. E. Tierney		Eckman.

TABLE C.—Continued.

Showing the Location of Collieries in the Second District of West Virginia.

NAME OF COLLIERY.	NAME OF OPERATOR.	NAME OF SUPT.	LOCATION—CO.	P. O. ADDRESS.
Shawnee	Shawnee Coal & Coke Co.	Wm. R. Graham	McDowell	Eckman.
Peerless	The Peerless Coal & Coke Co.	H. C. Zacharias		Clauser.
Bottom Creek	Bottom Creek Coal & Coke Co	Wm. Spencer		Vivian.
Angle	Norfolk Coal & Coke Co.	Stuart M. Buck		May Beury.
Delta	Norfolk Coal & Coke Co	E. S. Hutchison		May Beury.
Tidewater	The Tidewater Coal & Coke Co.	T. L. Henritze		Vivian.
Dunlow	Dunlow Coal Co.	Thos Nichol	Wayne.	Dunlow.
Coaldale	Coaldale Mining & M'f'g Co.	H. J. Tondy		Fleming.

TABLE D

Showing No. of Employes, &c., of Collieries in the Second District of West Virginia.

NAME OF COLLIERY.	No of Employes.				Kind of Mine.	Mode of Ventilation.	COAL.			No of Coke Ovens.
	Inside Mine.	Outside Mine.	At Coke Ovens.	Total.			SEAM WORKED.	THICKNESS.	KIND.	
Flint Hill					Slope	Furnace				
Hartford City	23	4		27	Slope	Furnace.	Pittsburgh.	4 ft. 6 in.	Bituminous.	
California	52	8		60	Drift	Furnace.	Pittsburgh.	4 ft. 8 in.	Bituminous.	
Liverpool	21	2		23						
McDaniels	17	1		18	Drift	Furnace.	Pittsburgh	4 ft. 6 in.	Bituminous.	
Hope	19	2		21	Drift.	Furnace.	Pittsburgh.	4 ft. 8 in.	Bituminous.	
Sterling					Drift.	Furnace				
New Haven	40	8		48			Pittsburgh.	4 ft. 6 in.	Bituminous.	
Camden	95	10		105	Drift.	Fan.	Pittsburgh.	4 ft.	Bituminous.	
Plymouth	50	10		60	Drift.	Furnace.	Raymond.	4 ft. 6 in.	Splint.	
Bancroft	41	4		45	Drift.	Furnace.	Raymond.	5 ft.	Splint.	
Queen City	19	3		22			Raymond.	5 ft. 6 in.	Splint.	
Florence	352	75		427	Drift.	Furnace.	Raymond.	5 ft. 6 in.	Semi-Cannel.	
Black Band	105	10		115	Drift.	Furnace.		3 ft.	Block.	
Campbell's Creek	294	14		308	Drift.	Furnace.	Campbell's Creek.	4 ft. 6 in.	Splint.	
Winifrede	435	65		500	Drift.	Fan & Furn'ce	Winifrede.	5 ft.	Bituminous.	
Black Diamond	98	27		125	Drift.	Furnace.	Lewiston.	3 ft. 8 in.	Splint.	
Lewiston	45	3		48	Drift.	Furnace.	Lewiston.	2 ft. 6 in.	Gas.	
Peerless	52	8		60	Drift.	Fan.	Peerless.	2 ft 6 in.	Gas.	
Acme	68	15		83	Drift.	Natural.	Acme.	4 ft. 6 in.	Hard Bituminous.	
Keystone	130	16		146	Drift.	Fan.	Keystone.	5 ft. 6 in.	Gas.	
Coalburg	128	10		138	Drift.	Natural.	Coalburg.	4 ft.	Splint.	
Peabody	68	18		86	Drift.	Natural.	No. 5.	6 ft.	Splint.	
Monarch	59	20		79	Drift.	Natural.	Monarch White Ash.	6 ft.	Splint.	
Cedar Grove, No. 1	42	6		48	Slope	Fan.	Cedar Grove.	3 ft. 1 in.	Gas.	
Cedar Grove Peerless	74	12		86	Drift.	Fan.	Blacksburg.	3 ft. 4 in.	Gas.	
Chestnut Point	32	3	5	40	Drift.	Furnace.	Cedar Grove.	3 ft.	Gas.	12
Belmont	120	15		135	Drift.	Furnace.	Lewiston & Coalburg.	4 ft. and 5 ft,	Splint.	
Crown Hill	78	10		88	Drift.	Furnace.	Crown Hill.	4 ft.	Splint.	
Chesapeake	175	20		195	Drift.	Furnace.	Kanawha.	6 ft.	Splint.	
Consolidated	96	14		110	Drift.	Fan				
Union	102	8		110	Drift.	Furnace	Coal Valley & Winifrede	5 ft. 6 in.	Bituminous.	
Excelsior					Drift.	Furnace.				
Cannel	72	37		109	Drift.	Natural.	Cannel.	3 ft,	Cannel.	

TABLE D—Continued.

NAME OF COLLIERY.	No. of Employes.				Kind of Mine.	Mode of Ventilation.	COAL.			No. of Coke Ovens.
	Inside Mine.	Outside Mine.	At Coke Ovens.	Total.			Seam Worked.	Thickness.	Kind.	
No. 2 Gas	31	2	.....	33	Drift.	Natural.	No. 2 Gas	7 ft.	Gas.	.....
Eureka	250	25	.....	275	Drift.	Fan	Gas and Block.	Gas 5 ft. 5 in bl'k6ft.	Gas and splint.	.....
Mecca	106	8	.....	114	Drift.	Natural	Coal Vall-y No. 2.	5 ft.	Gas.	.....
Straughan	57	8	.....	65	Drift.	Furnace.	Coal Valley.	5 ft.	Gas.	.....
Crescent	110	12	24	146	Drift	Furnace.	Coal Valley.	5 ft.	Gas.	94
Crescent Block	76	11	8	95	Drift.	Furnace.	No. 5 Block.	6 ft.	Splint.	.....
Edgewater	134	19	....	153	Drift.	Furnace.	Gas and Eagle.	Gas 5 ft. Eagle 4 ft.	Gas and steam	.....
Eagle	60	5	29	94	Drift.	Furnace.	Eagle.	4 ft.	Coking.	54
St. Clair	145	15	22	182	Drift.	Furnace.	Eagle No 1 and Gas No 2	No 1 4 ft. 8 in., 2 4 ft 6	Gas.	78
Diamond	110	8	.....	118	Drift.	Furnace.	Gas seam.	5 ft. 3 in.	Gas.	.....
Powellton	217	15	60	292	Drift.	Furnace.	Powellton.	5 ft. 10 in	Semi-Bituminous.	202
Great Kanawha	140	15	35	190	Drift.	Furnace.	Coal Valley.	4 ft. 8 in	Gas,	66
Ansted	170	20	44	234	Drift.	Fan	Ansted	6 to 14 ft.	Soft Coking	102
Gaymont	28	3	.....	31	Drift.	Furnace.	New River.	3 ft.	Coking.	32
Sunny Side	63	6	4	73	Drift.	Furnace.	Nuttall.	3 ft. 3 in.	Coking.	18
Elmo	45	3	.....	48	Drift.	Furnace	Nuttall.	3 ft.	Coking.	.....
Fayette	80	6	4	90	Drift.	Furnace.	Caperton.	3 ft.	Red Ash.	12
Nuttallburg	159	18	37	214	Drift.	Furnace	Nuttall.	3 ft. 9 in.	Coking.	74
Keeney's Creek	113	11	.....	124	Drift	Furnace.	Nuttall.	3 ft. 9 in.	Coking.	.....
Caperton	24	3	....	27	Drift	Natural.	Sewell.	4 ft.	Coking.	.....
New River	133	21	43	197	Drift.	Furnace.	Sewell.	3 ft. 8 in.	Coking.	150
Sewell	.....	.....	.....	.....	Drift	Furnace.	.....	.....	.....	193
Fire Creek	110	10	30	150	Drift.	Fan	Fire Creek.	3 ft.	Coking.	96
Central	110	6	9	125	Drift.	Furnace.	Fire Creek.	4 ft.	Coking.	50
Echo	.....	.....	.....	.....	Drift.	Furnace.	.....	.....	.....	.....
Rush Run	122	8	....	130	Drift.	Furnace.	Fire Creek.	3 to 6 ft.	Coking.	.....
Dimmock	137	9	.....	146	Drift.	Furnace.	Fire Creek.	3 to 4 ft.	Coking.	.....
Thurmond	129	21	.....	150	Drift.	Furnace.	Quinnimont.	3 ft.	Coking.	.....
Stone Cliff	173	15	12	200	Drift.	Furnace.	Sewell and Quinnimont.	Sewell 4ft 6 Quin. 3 6.	Coking	60
Beechwood and Keystone	170	10	5	185	Drift.	Furnace.	Quinnimont.	4 ft. 1 in.	Coking.	21
Alaska	100	10	3	113	Drift.	Furnace.	Fire Creek.	3 ft 8 in.	Coking.	20
Slater Creek	75	10	.....	85	Drift.	Furnace.	Quinnimont.	3 ft.	Coking.	.....
Quinnimont	128	15	38	181	Drift.	Natural.	Quinnimont.	2 ft. 10 in.	Coking.	101
Red Ash	61	8	.....	69	Drift.	.....	Fire Creek.	4 ft. 6 in.	Coking.	.....
Finlow	38	6	.....	44	Drift.	.....	.....	4 ft.	Bituminous.	.....
Royal	.....	.....	.....	.....	Drift.	.....	.....	.....	.....	.....
Reliance	220	20	36	276	Drift.	Fan	No. 3.	7 ft.	Coking.	91
Caswell and Hemlock	300	25	50	375	Drift.	Fan.	Pocahontas.	9 ft.	Coking.	228

TABLE D.—Continued.

NAME OF COLLIERY.	No. of Employes.				Kind of Mine.	Mod of Ventilation.	COAL.			No. of Coke Ovens.
	Inside Mine	Outside Mine.	At Coke Ovens.	Total.			Seam Worked	Thickness.	Kind.	
Buckeye	182	15	28	225	Drift.	Fan	No. 3.	5½ ft.	Coking.	100
Goodwill	90	20	20	130	Drift.	Fan.	No. 3.	5 ft.	Coking.	50
Louisville.	90	15	25	130	Drift.	Fan.	No. 3.	5 ft.	Coking.	75
Sterling	270	20	100	390	Drift.	Fan.	No. 3.	9½ ft.	Coking.	150
Coaldale	165	20	65	250	Drift.	Fan.	No. 3.	10 ft.	Coking.	110
Pocahontas East Mine	181	6	22	209	Drift.	Fan.	No. 3.	10 ft.	Coking.	444
Elkhorn	170	15	35	220	Drift.	Fan.	No. 3.	8 ft.	Coking.	150
May Beury	150	50	25	225	Drift.	Fan.	No. 3.	8½ ft.	Coking.	150
Norfolk	125	15	20	160	Drift.	Fan.	No. 3.	9 ft.	Coking.	172
Lick Branch	98	9	35	142	Drift.	Furnace.	No. 3.	8 ft. 4 in.	Coking.	120
Turkey Gap	205	20	100	325	Drift.	Fan.	No. 3	8 ft.	Coking.	164
Crozer	282	20	87	389	Drift.	Fan	No. 3.	7 ft.	Coking.	300
Houston	109	13	22	144	Drift.	Fan.	No. 3.	8 ft.	Coking.	150
Powhatan	120	10	30	160	Drift	Fan.	No. 3.	7½ ft.	Coking.	154
Lynchburg	93	20	25	138	Drift.	....	No. 3.	7 ft.	Coking.	134
Upland	72	5	30	107	Drift	Fan.	No. 3.	7½ ft.	Coking.	182
Alleghany	100	20	20	140	Drift.	....	No. 3.	6 ft. 4 in.	Coking.	150
Gilliam	78	14	32	124	Drift.	....	No. 3.	7 ft.	Coking.	100
Keystone	77	6	18	101	Drift.	....	No. 3.	6 ft.	Coking.	100
Empire	50	5	15	70	Drift.	....	No. 3.	6 ft. 5 in.	Coking.	100
Roanoke	29	5	....	34	Drift.	....	No. 3.	5 ft. 10 in.	Coking.	....
Arlington	66	45	..	111	Drift.	....	No. 3.	5 ft. 6 in.	Coking.	....
Rolfe	38	6	....	44	Drift.	....	No. 3.	5 ft.	Coking.	....
McDowell	42	3	80	125	Drift.	....	No. 3.	6 ft.	Coking.	62
King George	19	3	15	37	Drift.	....	No. 3.	6 ft.	Coking.	....
Pulaski	44	10	20	74	Drift.	....	No. 3.	7 ft.	Coking.	72
Elk Ridge	33	7	....	40	Drift	....	No. 3.	6 ft.	Coking.	100
Eureka	31	6	8	45	Drift	....	No. 3.	7½ ft.	Coking.	80
Shawnee	40	4	36	80	Drift	....	No. 3.	7 ft.	Coking.	60
Peerless	37	2	....	39	Drift.	....	No. 3.	6 ft.	Coking.	40
Bottom Creek	73	10	7	90	Drift.	....	No. 3.	6 ft.	Coking.	100
Angle	15	4	6	25	Drift	....	No. 3.	8 ft.	Coking.	16
Delta	....	....	....	....	Drift.	....	....	....	....	..
Tidewater	103	7	6	116	Drift.	Fire Basket.	No. 3.	6 ft.	Coking.	100
Dunlow	25	6	....	31	Drift.	Fire Basket.	Dunlow.	5 ft.	Semi-cannel.	....
Hope	....	....	....	....	Drift.	Fire Basket.	....	....	....	....
Coaldale Splint	47	15	....	62	Drift.	....	Freeport.	5½ ft.	Splint.	....

TABLE E.

Analyses of the Coal Mined from the Different Seams in the Second District of West Virginia.

Name of Seam.	Fixed Carbon.	Volatile Matter.	Water.	Sulphur.	Ash.	Name of Operator.
Acme	55.56	39.23	1.80	0.71	3.41	Stevens Coal Co.
Black Band............	57.48	38.58	2.24	....	1.70	Black Band C. & I. Co.
Blacksburg............	56.75	41.17	1.23	....	.85	Cedar Grove M. Co.
Cedar Grove.....	61.27	36 83	0.00	0.00	1.90	Cedar Grove M. Co.
Coalburgh	62.00	32.50	4.00	......	1.50	Robinson Coal Co.
Crown Hill............	62.61	33.26	2.14	.18	1.81	New York & W. Va. C. & I. Co.
Coal Valley Gas.	61.75	34.91	0.94	.16	2.40	Mt. Carbon Co., Limited.
New River	74.04	23.20	.83	.50	1.43	All of New River operators,
Pocahontas.......	74.26	18.81	1.01	.72	5.19	Mercer and McDowell Co's.

Analyses of Coke Made of West Virginia Coal Compared with that af Other Coking Districts.

Name of District.	Fixed Carbon.	Volatile Matter.	Water.	Sulphur.	Ash.
Chattanooga	80.513	1.101	0.447	1.595	16.344
Birmingham	87.299	0.803	0.157	1.195	10.545
Connellsville....	88.962	0.425	0.060	.810	9.740
New River............	92.608	0.214	0.500	.500	6.188
Pocahontas..	92.550	0.757	0.347	.597	5.749

TABLE F.

Showing Production of Coal and Coke by Counties.

County.	From July 1, 1892, to June 30, 1893. Tons of Coal 2240.	Tons Coke 2,000.	No. of Mines. Open.	Opening.	No. of Coke Ovens. Complete.	Under Construction.	Number of Employes. Miners.	Inside Laborers.	Outside laborers.	Making Coke.	Total.	Increase of Output of Coal over 1892.
Mason.......	141,101	......	9	...	......	......	269	48	45	......	362	17778
Putnam	197 733	... ..	5	...	......	......	385	77	92	......	554	43041
Kanawha....	1,210,749	2,732	51	4	12	......	1859	445	333	5	2642	35378
Fayette..	2,350,250	305486	45	10	1423	......	2944	724	395	442	4505	785671
Mercer	1,196.574	127164	17	....	1248	285	1177	321	141	316	1985	21433
McDowell. ..	1,876.838	291154	29	....	2756	827	1767	502	298	541	3108	775956
Wayne... ..	21,839	......	6	...	....	......	65	7	21	90	90	34081
Raleigh.	.....	.....	1	...	....	......	....	......	.. ...	.....	....	....
Total....	6 995,084	726536	162	14	5,439	1,112	8466	2124	1325	1334	13249	1,645,176

Comparative Statistics Concerning the Coal and Coke Production of the Entire State from 1880 to 1893, Inclusive.

Statistics of West Virginia Coal Production, 1880 *to* 1893.

YEARS.	Inside Miners.	Outside Laborers and Coke workers.	Total Production. Tons 2,240 lbs	Percentage of Increase.	Average Annual Increase.
1880	2,553	1,173	1 404,008	....	....
1881	3,063	1 407	1,803 984	28.48	....
1882	3,573	1 641	2,416,960	33.90	.. . .
1883	4,438	1,956	3,142,231	34.00	....
1884	4,627	1,724	3,249,839	3.40	....
1885	5,486	1,806	3,369,062	3.60	....
1886	6,081	1,181	3,598,661	6.80	.. ..
1887	7,023	1,582	4,936,820	37.18	....
1888	7,269	1,705	5 375,561	8.89	....
1889	7,764	1,882	5,405,173	0.55	....
1890	9,173	2,324	6,002,080	11.04	....
1891	10,434	2,589	8,155,202	35.87	....
1892	9,884	5,509	8,710 888	6 81	....
1893	11,110	... .	10,928,920	25.46	. ...

Statistics of the Manufacture of Coke, 1880, to 1893.

YEARS.	No. of Ovens.	Ovens Building.	Coal Used.	Coke Produced.	Total Value of Coke at Ovens.	Value of Coke at Ovens per Ton.	Percent of Yield of Coal in Coke
1880	631	40	206,034	121,715	$ 318,797	$2.30	60.0
1881	689	189	272,163	164,068	429,571	2.60	61.0
1882	878	84	321,625	202,103	520,437	2.26	63.0
1883	962	43	360 664	225,893	563,490	2.19	63.0
1884	1,005	127	385,588	228 472	425,952	1.91	62 0
1885	1,078	63	415,533	260,571	485.188	1 86	63.0
1886	1,154	317	425,002	264,168	513.843	1.94	62.0
1887	2 080	442	698,327	442,031	976,732	2,21	63.3
1888	2,137	68	786,139	499,985	....	....	63.6
1889	2,453	142	562,739	360,716	. . ....	....	64 1
1890	3,442	184	1,377,299	892 490	.....	....	61.8
1891	4,117	777	1,890,122	1,228,418	....	....	65.21
1892	5,490	777	2,011,668	1,313,449	....	....	65.29
1893	6,825	1,112	....	1,090,909	....	....	....

REPORTS

—OF—

MINE INSPECTORS

—FOR THE—

First, Second and Third Districts

—OF—

WEST VIRGINIA,

—FOR THE—

Years 1895 and 1896.

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REPORT

OF

INSPECTOR OF MINES.

First District of West Virginia.

To His Excellency, WM. A. MACCORKLE,
Governor of West Virginia:

SIR:—I have the honor to present to you for your consideration, my report as Inspector of Mines, for the First District of West Virginia, for the year ending June 30th, 1895.

I have made two visits through the district during the year, including mines that were in purview of the law, that were in operation, giving especial attention to those mines that were considered dangerous.

There is a general improvement in the methods of work, ventilation, and drainage, throughout the District for the past year.

Fans and furnaces have been added, which greatly improve ventilation. Also, ropes and motors for hauling the coal, have been placed at several of the mines.

There have been no labor troubles during the past year.

All my instructions for the safety of both men and mines, have been promptly and cheerfully complied with.

There is a slight increase of the production of both coal and coke throughout the District, over my last report.

I am sorry to note that there is an increase of the fatal accidents of the past year, over the previous one. This increase was caused

☆ W VA. SEC. OF STATE

by two explosions, namely: The Blanche Mine explosion, which occurred Nov. 20th, 1894, killing 8 men; and the Monongah Mine explosion, on May 25th, 1895. which killed 4 men. I trust that the direful results of these calamities will be a warning to both operators and miners to use every precaution necessary to prevent a repetition of the same.

I am pleased to say that there has been a decided improvement of the non fatal accidents, the number for this year being less than half for the previous year.

The tables hereto appended will show complete and reliable information on these points, as directed by the mining law of West Virginia.

Very Respectfully,
DAVID M. HARR, *Inspector of Mines of the First District of West Virginia.*

Fairmont, West Va., Dec. 31st, 1895.

DESCRIPTION AND LOCATION OF MINES IN THE FIRST DISTRICT OF WEST VIRGINIA.

Brooke County.

BLANCHE MINE.

This mine is operated by the Blanche Coal Co., on the P. C. & St. L. R. R., about 18 miles from Wellsburg. Ventilation is produced by furnaces, which produces a volume of 1500 cubic feet of air per minute. It was at this mine where the explosion occurred on Nov. 20, 1894, in which 8 men lost their lives.

On being notified of the fact, I went at once to investigate the cause. I found the cause to be from blasting coal from the solid, which ignited the dust.

I gave them orders to stop shooting coal from the solid, as I had done several times before, also to keep the mine thoroughly watered.

Since they have complied with my instructions the mine is in a good and safe condition.

As long as they work the mine on the present system, I can see no reason to fear a repetition of the former disaster.

WELLSBURG MINE.

This mine is located at Wellsburg, it is operated by Forbes, Carmichael & Co., ventilation is produced by furnace, and is good. Roads and drainage are good.

COOPER COAL WORKS.

Situated at Short Creek. Operated by Cooper Coal Co. Ventilation natural and fair. Roads and drainage, fairly good.

GILCHRIST.

This mine is located at Lazearville, on the P. C. & St. L. R. R., two miles north of Wellsburg. Operated by A. Gilchrist Coal Co. Ventilation is produced by furnace. The ventilation is good. Roads and drainage, good.

Harrison County.

BRIAR HILL.

This mine is owned by Briar Hill Coal & Coke Co. Situated on the M. R. R. R., six miles north of Clarksburg. Ventilation is natural and good. Roads and drainage are good.

GLENN FALLS.

Glenn Falls Coal & Coke Co., owners and operators. This mine is situated on the M. R. R. R., about 3 miles north of Clarksburg. Ventilation is natural and fairly good. Roads and drainage, good.

FARNUM MINE.

This mine is owned and operated by the Pinnickinnick Coal & Coke Co. Situated on the M. R. R. R. There has been considerable improvement made at this mine in the last year. There has been a furnace erected which gives good ventilation. Roads and drainage are good.

HOWARD.

This mine is owned and operated by the Howard Coal and Coke Company. Situated at Wilsonburg on the Parkersburg branch of the B. & O. R. R. They have recently erected a furnace, which adds greatly to the ventilation, making it first-class in every respect. Roads and drainage, good.

DESPARD.

Owned and operated by the Despard Coal Co. Situated on the B. & O. R. R., one mile east of Clarksburg. Ventilation is produced by natural means and a small furnace. Roads and drainage are good.

MT. CLAIR.

This mine is owned and operated by the Mt. Clair Consolidated Coal Co. Ventilation is natural and fairly good. Situated on the W. Va. & P. R. R., about six miles from Clarksburg. Roads and drainage fairly good.

JACKSON MINE.

This is a small mine, owned by the same Company. Not coming under the purview of the law. The number of miners is 4; condition, fairly good.

FALL RUN.

This mine is owned and operated by the Pinnickinnick Coal Co. They have erected a new furnace at this mine since the last report, which produces good results. Situated on the M. R. R. R., two miles north of Clarksburg. Roads and drainage are good.

CLARKSBURG MINE.

This mine is owned and operated by the above company, situated at Clarksburg. They have put up a furnace here, also, since the last report. This furnace produces 14,000 cubic feet of air per minute. Roads and drainage fairly good.

Marshall County.

BOGGS RUN.

This mine is on the B. & O. R. R , at Benwood, and is operated by the Boggs Run Mining and Manufacturing Co Ventilation is produced by fan, and is good. This mine has been considerably improved since my last report by means of rope haulage. The condition of the mine is first class in every respect.

GLENDALE.

Situated at Glendale on the Baltimore & Ohio R. R. This is a shaft mine 100 feet deep, and is operated by the Glendale Coal Co. Ventilation is produced by fan and is good. The roads and drainage are not good. The mine is situated near the Ohio river and the shaft extends some distance below the level of the river. Consequently, there is much water. Also, gives off considerable fire damp. The fan produces sufficient air to render the mine safe for the present.

MOUNDSVILLE SHAFT.

Moundsville Coal Company operates this mine at Moundsville. Situated on the B. & O. R. R. Ventilation is produced by fan, and is good. Roads and drainage are good. This mine gives off considerable gas, but up to this date the mine has been carefully looked after.

Ohio County.

ELM GROVE.

This is a shaft mine, 108 feet deep. It is operated by the Elm Grove Coal Company. Situated on the Baltimore & Ohio Railroad at Elm Grove. Ventilation is produced by fan, and good results are obtained. Roads and drainage are good.

MANCHESTER.

Harry Kasley operates this mine in the east part of Wheeling. Ventilation is produced by fan and is very good. Roads and drainage good.

WHITTAKER.

This mine is also operated by Harry Kasley, and adjoining the Manchester mine. Ventilation is produced by fan, and produces a good circulation of air. At times the air is heavily charged with carbonic acid gas coming from the old Bellmont mines, which makes it very unhealthy for the miners. Roads and drainage are good.

Preston County.

OAKLAND.

This mine is owned and operated by the Oakland Coal and Coke Company. Situated at Corinth on the B. & O. Railroad. Ventilation is produced by natural means and at times is not very good. Roads and drainage are not good.

AUSTEN.

This mine is on the B. & O. Railroad at Austen and is operated by Austen Coke Works. Ventilation is produced by fan and is good. Roads and drainage are good.

THE WEST COAL AND COKE COMPANY.

Situated at Tunnelton on the Baltimore & Ohio Railroad. Operated by J. X. Hill and L. S. Larew. Ventilation is produced by a small furnace, fairly good. Roads and drainage good.

TUNNELTON MINES.

Operated by the Merchant Coal Company. Situated at Tunnelton on the Baltimore & Ohio Railroad. Ventilation natural and fairly good. Roads and drainage good.

Randolph County.

WOMELSDORF.

This mine is owned and operated by the Womelsdorf Coal Company. Situated on the Roaring Creek and Charleston Railroad. Ventilation is produced by natural means and fairly good. There will be a fan placed at this mine soon. Roads and drainage good.

Taylor County.

FLEMINGTON.

This mine is operated by the Flemington Coal and Coke Company. Situated at Flemington on the Baltimore & Ohio Railroad. Ventilation good and produced by natural means. Roads and drainage good.

TYRCONNELL.

Operated by the Newburg Coal Company. Situated on the Baltimore & Ohio Railroad at Tyrconnell. Ventilation is produced by natural means, assisted by a furnace and is good. Roads and drainage good.

Tucker County.

THOMAS SHAFT.

This mine is owned and operated by the Davis Coal and Coke Company. It is at Thomas on the West Virginia Central Railroad. Ventilation is produced by steam jet and is good. The condition of this mine is better than it has been since it commenced operation.

THOMAS MINE.

Is owned and operated by the Davis Coal & Coke Co. Situated at Thomas, on the West Virginia Central Railroad. This is a drift, ventilated by a fan and is good. Roads and drainage good.

DOUGLAS MINE.

This mine is owned by the Cumberland Coal Company, and is located at Douglas, on the West Virginia Central Railroad. Ventilation is produced by natural means and a small furnace which makes it good. Roads and drainage are good. This plant has been made more extensive of late.

COKETON NO. 2.

This mine is owned and operated by Davis Coal and Coke Co. Situated at Coketon, on the West Virginia Central Railroad. Ventilation is produced by fan and the condition of the mine is first class.

COKETON NO. 3.

Is owned and operated by the above named company. Situated at Coketon. Ventilation is good. Roads and drainage not good. There have been extensive improvements here in the way of new coke ovens. The total number now in blast being 361.

Marion County.

KING MINE.

This mine is owned by the Virginia and Pittsburg Coal & Coke Co. It is situated on the B. & O. R. R., about 3 miles east of Fairmont. Ventilation is produced by natural means and by steam jet, and is good. Roads and drainage good.

GASTON MINE.

Owned and operated by the Gaston Gas Coal Co. It is situated on the M. R. R. R., about 2 miles from Fairmont. Ventilation is produced by fan, producing a volume of 48,000 cubic feet of air per minute. This air is conducted through the mine in different splits, by means of overcasts. Roads and drainage are good.

PRICHARD.

Owned and operated by the Clark Coal & Coke Co. On the M. R. R. R. Ventilation is produced by furnace, and is good. Roads and drainage are good.

AURORA.

This mine is operated by the Newburg Orrel Coal Co., situated on the F., M. & P. R. R. Ventilation is produced by furnace, and produces good results. Roads and drainage good.

CENTRAL MINES.

Owned and operated by Oliver Jackson. Situated on the B. & O. R. R., one mile from Fairmont. Ventilation is natural and fairly good. Roads and drainage are good.

CLEMENTS.

This mine is on the F. M. & P. R. R., and is operated by the Pool Coal and Coke Co. Ventilation is produced by a fan and is good. Roads and drainage are good.

WEST FAIRMONT.

This is a shaft mine, owned and operated by the West Fairmont Coal & Coke Co. They have put in a large fan since the last report, which makes the ventilation good. This mine gives off light carburetted gas, or fire damp, in small quantities. Every precaution is taken by the management to prevent accident. Roads and drainage good.

PALATINE.

This mine is operated by the Newburg Orrel Coal Co. Situated one mile East of Fairmont, on the B. & O. R. R. Ventilation is produced by natural means and is fairly good. Roads and drainage good.

MONONGAH.

This Company, known as the Monongah Coal and Coke Company, own and operate three mines, situated on the M. R. R. R., at Monongah Ventilation is produced by fans, one at each mine.

Mine No. 1 is a slope; gives off gas, but not in dangerous quantities, the fan being sufficient to give ample ventilation. Roads and drainage are good.

Mine No. 2, is a slope.—Ventilation is good. Roads and drainage good.

Mine No. 3, is in a good condition, the fan producing a volume of 31,000 cu. feet of air per minute. Roads and drainage good.

At Mine No. 2 they have an electric motor.

There was an explosion on May 25, 1895, in an entry No. 4, opening into Mine No. 2, causing the death of 4 men. This explosion was caused by a shot blowing out and igniting some powder. Death was caused by suffocation.

HUTCHINSON.

This is a slope mine situated near Worthington on the M. R. R. R. It is operated by the Hutchinson Coal & Coke Co. Ventilation is produced by fan and is good. This mine gives off gas in small quantities, but the ventilation is sufficient to render it harmless. Roads and drainage are good.

MONTANA.

Situated on the F. M. & P. Railroad, six miles north of Fairmont. Owned and operated by the Montana Coal and Coke Company. Ventilation is produced by fan, which makes it good. This mine has made great improvement since my last report, by way of removing the coal from the mine by reversible endless rope, which enables them to produce 2,000 tons of coal per day. Roads and drainage good.

NEW ENGLAND.

This mine is owned and operated by the West Fairmont Coal and Coke Company. This mine has been opened since my last report. Ventilation is produced by fan. This is the model mine of the district, having all the latest appliances for handling coal and coke. Roads and drainage are good.

Mineral County.

PIERCE MINE.

Owned and operated by the Elk Garden Big Vein Mining Company. Situated on the West Virginia Central Railroad. Ventilation is natural. On my last visit I found the mine in a good condition. This mine is no longer worked, not in existence.

WINDOM.

This mine is situated at Windom on the West Virginia Central Railroad, and is owned and operated by the Davis Coal and Coke Company. Ventilation is natural and very good. Roads and drain age very good.

HAMPSHIRE.

This mine is situated on the W. Va. Central R. R. It is operated by the Davis Coal & Coke Co. Ventilation is natural and good. Roads and drainage good.

ELK GARDEN.

Mines No. 6 and 7. These mines are owned and operated by the W. Va. Central and Pittsburg R. R. Co. Situated at Elk Garden. In No. 6 ventilation is produced by natural means and is good. Roads and drainage are good. No. 7 has natural ventilation and is good. Roads and drainage good.

ATLANTIC.

Owned and operated by the Georges Creek Consolidated Coal Co. Situated on the West Virginia Central R. R. Its condition has always been good. Work has been suspended here.

Monongalia County.

ACME.

Situated on the F. M. & P. R. R. Operated by the Acme Coal & Coke Co. Ventilation is produced by furnace, which is good. The condition of the mine is better than ever before. Roads and drainage good.

BEECHWOOD.

This mine is operated by the Hutchinson Coal & Coke Co. Situated on the F. M. & P. R. R. Ventilation is produced by furnace. Roads and drainage good.

MINE STATISTICS.

TABLE I.

Showing the Production of Coal and Coke, by Counties, from July 1, 1894, to December 31, 1894, and from January 1, 1895, to June 30, 1895. First District of West Virginia.

COUNTIES.	Mines reported	Coal—2240 pounds.			Coke--Tons 2000 pounds.			Coke Ovens.		
		July 1, to December 31, 1894.	January 1, to June 30, 1895.	Total	July 1, to December 31, 1894.	January 1, to June 30, 1895.	Total	In blast.	Out of blast.	Total.
Brooke	3	18,742	31,271	50,013						
Harrison	8	103,367	101,075	204,442	1,706	2,712	4,418	80	72	152
Marion	11	629,578	558,759	1,198,336	86,380	69,814	126,194	576	216	792
Marshall	3	63,498	74,264	137,762						
Mineral	5	312,482	302,298	614,780						
Monongalia	2	25,264	22,389	47,653	10,714	11,078	21,792	38		38
Ohio	3	44,816	43,875	88,691						
Preston	4	11,953	40,432	52,385	803	17,670	18,473	81	68	149
Taylor	2	35,311	51,225	86,536	2,906	3,030	5,936	14	11	25
Tucker	5	166,688	149,657	316,345	27,309	44,311	71,620	409	32	441
Total		1,411,699	1,375,245	2,792,943	129.818	148,615	248,433	1,198	399	1,597

TABLE II.

Showing Production of Coal and Coke of Each Colliery in the First District of West Virginia, for the year ending June 30, 1895.

Counties.	NAME OF COLLIERY.	COAL.			COKE.		
		First six months.	Second six months.	Total.	First six months.	Second six months.	Total.
Brooke	Cooper mine	8,300	8,300	16,600			
	Gilchrist mine	4,412	16,471	20,883			
	Forbes Carmichael Co	1,030	1,500	2,580			
	Blanche Mine	5,000	5,000	10,000			
				50,013			
Harrison.	Despard mines	18,559	16,576	35,135	1,296	2,361	3,657
	Mt. Clair mines	12.775	11,485	24,260			
	Howard mine	85,690	31 885	67.575			
	Farnum mine		8,085	8.085		351	351
	Glenne Falls	8,306	2.554	10,860			
	Briar Hill	19,310	8,720	28,030	410		410
	Fall Run	4.249	11,906	16,155			
	Clarksburg mine	4,478	9,864	14,342			
				204,412			4,410
Marion.	West Fairmont Shaft	61,877	68,290	130,167	6,557	7,042	13,599
	Hutchinson	27,160	27,160	54,320	500	600	1,100
	King mine	9,932	20,071	30,003	17	2,980	2,997
	Gaston mine	103,400	78,580	180,980	13,112	11,770	24,882
	Prichard	23.102	16,480	39,592	3,583	2,839	6,422
	Aurora mine	16,425	15,530.	31,955			
	Central mine	6,316	1,350	7,666	362	341	703
	Clements mine	Not	reported				
	New England		40,708		9,379		9,379
	Montana mines	125,741	78,512	204,253	21,655	17,112	38,767
	Palatine mines	23,598	22,019	45,677			
	Monogah	242,027	190,049	432.076	40,594	17,755	58,345
				1,198,336			126,194
Marshall.	Glendale shaft	29,483	33.786	63,269			
	Boggs Run	15 815	16,253	32.068			
	Moundsville shaft	18,200	24,225	42,425			
				137,762			
Mineral.	Windom mine	20,837	15,356	36,193			
	Hampshire mine	40,751	48,244	88,995			
	Elk Garden mine	206,074	195,616	401,690			
	Atlantic mine	26.733	24,994	51,727			
	Pierce mine	18,087	18,088	36,175			
				614,780			
Monongalia.	Acme mine	14,137	14.138	28,275	7,500	7,500	15,000
	Patterson mine	11,127	8,251	19.378	3,214	3,578	6,792
				47,653			21,792
Ohio.	Whitaker mine	5,633	5,634	11,267			
	Manchester mine	4,789	6,478	11.267			
	Elm Grove mine	31,394	31,763	66,157			
				88,691			
Preston.	Austin mine	4,299	18,343	22.642	803	16,632	17,435
	Merchants Coal Co		3,300	3.300			
	West End Coal Co		12,000	12,000		800	800
	Oakland C. & C. Co	7,654	6,789	14,443		238	238
				52,385			18,47

TABLE II.—*Continued.*

Showing Production of Coal and Coke of Each Colliery in the First District of West Virginia, for the Year Ending June 30, 1895.

Counties.	NAME OF COLLIERY.	COAL.			COKE.		
		First six months	Second six months.	Total.	First six months.	Second six months.	Total.
Taylor.	Flemington Mines	10,408	17.237	27,645			
	Tyrconnel Mines	24,903	33,988	58,891	2,906	3,030	5,936
				86,536			5,936
Tucker.	Thomas Mine	45,189	39,766	84,955	3,986	3,324	7,310
	Thomas Shaft	36,120	38,212	74,332			
	Coketon (2 & 3)	55.118	53,568	108,686	13,123	28,187	41,310
	Douglas Mine	30,261	18,111	48,372	10,200	12,800	28,000
				316,345			71,620
	Total of all the mines			2,792,943			248,433

TABLE III.

Showing the Number of Employes in and Around Collieries in the First District of West Virginia, Character of Seam, Work, Mode of Ventilation, Number of Ovens, &c., with the Year Ending June 30th, 1895.

NAME OF COLLIERY.	EMPLOYES.				Kind of Mines.	Mode of Ventilation.	Seam Worked.	Kind of Coal.	Thickness of Seam.	COKE OVENS.			
	Miners.	Day Laborers.	Coke Workers.	Total.						In Blast.	Out Blast.	Total.	No. months run.
BROOKE COUNTY.													
Blanche	35	8		43	Drift.	Furnace	Local	Steam.	4½ ft.				10
Gilchrist	27	4		31	Drift.	Furnace.	Pittsburg.	Steam.	5 ft.				12
Wellsburg	15	5		20	Drift	Furnace.	Pittsburg.	Steam.	5 ft				9
Cooper C. Co	16	10		26	Drift.	Nat.	Pittsburg.	Steam.	5 ft.				9
HARRISON COUNTY.													
Despard Mines	38	13	10	61	Drift.	Furnace.	Pittsburg.	Steam.	9 ft.	18		18	10
Mt. Clair Mines	10	4		14	Drift.	Nat.	Pittsburg.	Steam.	8 ft				12
Howard Mines	70	21		91	Drift.	Furnace.	Pittsburg.	Steam.	7 ft.		50	50	12
Farnum	38	9	6	53	Drift.	Furnace.	Pittsburg.	Steam.	9 ft	24	6	30	4
Glenn Falls	75	14		89	Drift.	Nat.	Pittsburg.	Steam.	9 ft.				2
Briar Hill	75	20	10	105	Drift.	Nat.	Pittsburg.	Gas & Steam.	8 ft.	22		22	6
Fall Run	50	7		57	Drift.	Furnace.	Pittsburg.	Gas & Steam.	9 ft.				9
Clarksburg Mine	42	14	5	61	Drift.	Furnace.	Pittsburg.	Gas & Steam.	9 ft.	16		16	9
MARION COUNTY.													
Hutchinson	60	16	10	86	Slope.	Fan.	Pittsburg.	Gas & Steam.	9 ft	26		26	12
King Mine	25	8	5	38	Drift.	Steam jet.	Pittsburg.	Gas & Steam.	9 ft	18	26	44	12
Gaston	175	25	50	250	Drift.	Fan.	Pittsburg.	Gas & Steam.	9 ft.	75	15	90	12
Prichard	60	9	8	77	Drift.	Furnace	Pittsburg.	Gas & Steam.	8 ft.	12		12	12
Aurora	45	14		59	Drift.	Furnace.	Pittsburg.	Gas & Steam.	7 ft.				11
Central	18	6	2	26	Drift.	Nat.	Pittsburg.	Gas & Steam.	8 ft.	4	6	10	9
Clements (Not Reported)													
West Fairmont Shaft	125	33	12	170	Shaft	Fan.	Pittsburg.	Gas & Steam.	9 ft.	36		36	12
Montana	175	35	90	300	Drift.	Fan.	Pittsburg.	Gas & Steam.	7 ft.	158		158	10
	40	16		56	Drift.	Nat.	Pittsburg.	Gas & Steam.	7 ft.				10

TABLE III.—*Continued.*

Showing the Number af Employes in and Around Collieries in the First District of West Virginia, Character of Seam Work, Mode of Ventilation, Number of Ovens, &c., with the Year Ending June 30th, 1895.

NAME OF COLLIERY.	EMPLOYES.				Kind of mines	Mode of Ventilation.	Seam Worked.	Kind of Coal.	Thickness of Seam.	COKE OVENS.			
	Mines.	Day Laborers.	Coke Workers.	Total.						In blast.	Out blast.	Total.	No. months run.
MARION COUNTY.—*Continuea.*													
Mongah	490	110	180	780	Drift.	Fan.	Pittsburg.	Gas and steam.	9 ft.	152	169	321	12
New England	40	11	13	64	Drift.	Fan.	Pittsburg.	Gas and steam.	8 ft.	45	....	45	6
MARSHALL COUNTY.													
Glendale	75	16	....	91	Shaft.	Fan.	Pittsburg.	Gas and steam.	5½ ft	....	....	....	11
Moundsville	90	25	....	115	Shaft.	Fan.	Pittsburg.	Gas and steam.	5½ ft.	....	....	....	9
Boggs' Run	30	13	....	43	Drift.	Fan.	Pittsburg.	Gas and steam.	5½ ft.	....	....	....	8
MINERAL COUNTY.													
Windom	60	13	....	73	Drift.	Natural.	Pittsburg.	Gas and steam.	15 ft	....	....	....	12
Hampshire	55	9	....	64	Drift.	Natural.	Kittanning.	Gas and steam.	6 ft.	....	....	....	12
Pierce	45	11	....	56	Drift.	Natural.	Pittsburg.	Gas and steam.	14 ft.	....	....	....	10
Elk Garden	325	69	....	394	Drift.	Natural.	Pittsburg.	Steam.	14 ft.	....	....	....	10
Atlantic	40	14	....	54	Drift.	Natural.	Pittsburg.	Steam.	14 ft.	....	....	....	6
MONONGALIA COUNTY.													
Acme	40	12	8	60	Drift.	Furnace.	Pittsburg.	Steam.	8 ft.	20	....	20	12
Patterson	40	6	8	54	Drift.	Furnace.	Pittsburg.	Steam.	9 ft.	18	....	18	10
OHIO COUNTY.													
Whitaker	22	9	....	31	Drift.	Fan.	Pittsburg.	Steam.	3 ft.	....	....	....	6
Manchester	14	3	....	17	Drift.	Fan.	Pittsburg.	Steam.	3 ft.	....	....	....	3
Elm Grove	70	12	....	82	Shaft.	Fan.	Pittsburg.	Steam	6 ft.	....	....	....	12

TABLE III.—*Continued.*

Showing the Number of Employes in and Around Collieries in the First District of West Virginia, Character of Seam Worked, Mode of Ventilation, Number of Ovens, &c., with the Year Ending June 30th, 1895.

NAME OF COLLIERY.	EMPLOYES.				Kind of Mines.	Mode of Ventilation.	Seam Worked	Kind of Coal.	Thickness of Seam.	COKE OVENS.			
	Miners.	Day Laborers.	Coke Workers.	Total.						In Blast.	Out Blast.	Total.	No. months run.
PRESTON COUNTY.													
Austin	30	16	16	62	Drift.	Fan.	Upper Freep't.	Steam.	7 ft.	71	12	83	9
West End	25	6	4	35	Drift.	Furnace.	Upper Freep't.	Steam.	6 ft.	10		10	12
Tunnelton	50	12		62	Drift.	Nat	Upper Freep't.	Steam.	5 ft.				1
Oakland	25	7	7	39	Drift.	Small Furnace.	Upper Freep't.	Steam.	5 ft.		56	56	10
TAYLOR COUNTY.													
Flemington	40	11		51	Drift.	Nat.	Pittsburg.	Steam and gas.	8½ ft.				9
Tyrconnell	70	15	14	99	Drift.	Furnace.	Pittsburg.	Steam and gas.	8 ft.	14	11	25	12
TUCKER COUNTY.													
Douglas	60	20	28	108	Drift.	Nat.	L. Kittanning.	Steam and C.	11 ft.	45	15	60	10
Thomas Shaft	64	14		78	Shaft.	Steam jet.	L. Kittanning.	Steam and C.	11 ft.				11
Coketon 2 & 3	175	25	60	260	Drift.	Fan.	L. Kittanning	Steam and C.	11 ft.	327	32	359	12
Thomas Drift	95	12	14	121	Drift.	Fan.	U. Kittanning.	Steam and C.	8 ft.	22		22	11
Total	3284	762	560	4606									

TABLE IV.

Showing Location of Collieries, etc., in the First District of West Virginia.

Name of Mine	Name of Operator.	Superintendent.	Mine Boss.	County.	Post Office.
Blanche	Blanche Coal Co.	R. T. Williams	Thos. Ritson	Brooke	Standard.
Gilchrist	A. Gilchrist Coal Co.	A. Gilchrist	Wm. Gilchrist	"	Lazearville.
Wellsburg	Forbes, Carmichael & Coal Co.	Wm. Forbes	D. G. Young	"	Wellsburg.
Cooper Coal Works	Cooper Coal Co.	Jas. Cooper	Jas Cooper	"	Short Creek.
Despard	Despard Gas Coal Co.	Mord Lewis	Jno. Latstetter	Harrison	Clarksburg.
Mt. Clare	Mt. Clair Coal Co.	J. F. Healy	J. L. Healy	"	Mt. Clair.
Howard	Howard Coal & Coke Co.	Jno Temple	Jno. Temple	"	Wilsonburg.
Farnum	Pinnickinnick Coal Co.	J. S. Dixon	Martin Flaker	"	Clarksburg.
Glenn Falls	Glenn Falls Coal & Coke Co	E. H. More	Ezra Wolfe	"	same
Briar Hill	Briar Hill Coal & Coke Co.	C. W. Watson	Peter Gill	"	Fairmont.
Fall Run	Pinnickinnick Coal Co.	W. Moody	W. Moody	"	Clarksburg.
Clarksburg Mine	Pinnickinnick Coal Co.	J. L. Carroll	W. Fleming	"	same
Hutchinson	Hutchinson Cool & Coke Co.	Thos. W. Arnett	Jno. F. Bratt	Marion	Fairmont.
King	Virginia & Pittsburg C. & C. Co.	R. M. Hite	R M. Hite	"	same
Gastons	Gaston Gas Coal Co	S. L. Watson	G. B. Brown	"	same
Prichard	Clark Coal & Coke Co.	Thos S. Haymond	Geo. Coburn	"	same
Aurora	Newburg Orrel Coal & Coke Co.	Chas. H. Orr	Jno. M. Henry	"	Palatine.
Central	O. Jackson	O. Jackson	J. S. Jackson	"	Fairmont.
Clements	Pool Coal & Coke Co.	C. L. Merrifield	T. W. Malone	"	Scotdale.
West Fairmont	West Fairmont Coal & Coke Co.	Wm. Brooks	Yank Wallace	"	Fairmont.
Montana	Montana Coal & Coke Co.	J. C. Gaskill	C. E. Gaskill	"	same
Palatine	Newburg Orrel Coal Co.	M. D. Orr	J. C. McKinney	"	Palatine.
Monogah	Monongah Coal & Coke Co.	A. J. Ruckman	A. E. Rogers & A. S. Barns	"	Fairmont.
Monongah No. 3	Monongah Coal & Coke Co.	A. J. Ruckman	Geo. Reppart	"	same
New England	West Fairmont Coal & Coke Co.	Wm. Brooks	Chas. Brooks	"	same
Glendale	Glendale Coal Co.	D. F. Henry	D. F. Henry	Marshall	Glendale.
Moundsville Shaft	Moundsville Coal Co.	Jno. O. Brooks	Jno Brooks, Sr.	"	Moundsville.
Boggs Run	Boggs M. & M. Co.	Philip Kuntz	Ed. Miller	"	Wheeling.
Windom	Davis Coal & Coke Co.	O. Tibbetts	J. B. Rankin	Mineral	Piedmont.
Hampshire	Davis Coal & Coke Co.	Jno. C. Briden	F. H. Tibbetts	"	same
Elk Garden	W. Va. & Pitts. R. R. Co.	W. T Blackiston	Fanston Wilson	"	Elk Garden.
Atlantic	G. C. & C. Co.	Jno. Jose	Jno Jose	"	Piedmont.
Acme	Acme Coal & Coke Co.	W. G Crawford	P. B. Robinson	Monongalia	Opekiska.
Beechwood	Patterson Coal & Coke Co.	Bob Patterson	Jno. Wilson	"	Beechwood.
Whittaker	Harry Kasley	Harry Kasley	Wm. Magruder	Ohio	Wheeling.
Manchester	Harry Kasley	Harry Kasley	Wm Magruder	"	same
Elm Grove	Elm Grove Coal Co.	J. B. Chambers	C. A. Brooks.	"	Elk Grove.
Oakland	Oakland Coal & Coke Co.	R. J Anderson	Robt. Thompson	Preston	Corinth.

TABLE IV.—*Continued.*

Showing Location of Collieries and, etc., in the First District of West Virginia.

Name of Mine.	Name of Operator.	Superintendent.	Mine Boss.	County.	Post Office.
Austin	Anstine Coke Works	Geo. C Shaw	J. M. Whittaker	Preston	Austin.
West End	West End Coke Co	J. X. Hill	L. S. Larew	"	Tunnelton.
Merchants Coal Co	Merchants Coal Co	A. J. Bonnafield	Geo. Cummings	"	same
Womelsdorf Coal Co	Womelsdorf Coal Co	Ernest V. Avondale	W. H. Davis	Randolph	Womelsdorf.
Flemington	Flemington Coal & Coke Co	A. P. Gedecke.	S. S. Walter	Taylor	Flemington.
Tyrconnell	Newburg Orrel Coal Co.	J. H Henry	Robt. Love.	"	Tyrconnell.
Douglas	Cumberland Coal & Coke Co	J. B. Jenkins	Ed. Pill	Tucker	Copeton.
Thomas Shaft	Davis Coal & Coke Co	Wm. Coulson	Geo Jenkins	"	Thomas.
Copeton	Davis Coal & Coke Co	J C. Brydon	Jno. Nesbitt Jr	"	same
Thomas Drift	Davis Coal & Coke Co	Wm. Coulson.	Cal. Thompson	"	same

TABLE V.

Showing Coal and Coke Production, Number of Employees, Fatal and Non-Fatal Accidents from July 1, 1894, *to June* 30, 1895, *Inclusive, in the First District of West Virginia.*

Actual coal production, tons of 2,240 pounds	2,792,943
Quantity of coke produced, tons of 2,000 pounds	248,433
Total number of coke ovens	1,597

EMPLOYEES.

Number of inside miners	3,284
Number of day laborers	762
Number of employees connected with handling coke	560
Total number of men employed in and around mines	4,606

PROPORTIONS.

Number of tons of coal produced per life lost		128,952	Tons
Number of tons of coal produced per non-fatal accident		199,496	Tons
Number of tons of coal produced per miner employed yearly		851	Tons
Average earning per miner at 40c per ton	$	340.40	
Average monthly earning per miner at 40c per ton	$	29.20	

TABLE VI.

Showing Analyses of Coal and Coke in the First District of West Virginia.

NAME OF COLLIERY.		Fixed Carbon	Volatile Matter.	Water.	Sulphur.	Ash.	Chemist.
Cooper Coal Works	coal	50.69	40.44	1.10	2.82	4.55	J. S. Cary.
Whittaker	coal	48.67	44.07	0.80	2.26	4.20	same
Despard	coal	53.01	37.71	0.95	2.88	5.45	same
"	coke	85.47	1.40	0.15	2.83	10.150	same
Clarksburg	coal	54.35	39.87	1.80	0.79	4.00	Cambria Iron Works.
"	coke	89.22	1.35	0.20	1.43	0.73	same
Mt. Clair	coal	72.184	19.406	1.01	0.792	4.486	Thos. Bruce.
Prichard	coal	62.00	33.50	1.05	0.719	2.74	J. E. Paul.
"	coke	87.66	0.95	0.18	1.01	10.20	J. E. Paul.
Monongah	coal	53.64	37.19	1.36	1.01	6.80	J. B. Britton.
"	coke	89.39	0.20	0.51	0.90	9.00	same
Montana	coal	57.957	36.00	1.512	0.931	3.60	A. S. McCreath.
"	coke	91.85	0.43	0.42	0.48	6.82	C. E. Dwight.
Clements	coal	55.20	37.00	1.00	0.80	6.00	A. S. McCreath.
"	coke	87.651	0.0074	0.0043	1.169	9.985	same
King	coal	57.46	35.66	1.54	0.01	5.73	R. Harlien.
"	coke	86.10			1.119	9.39	Isabella Furnace Co.
Hutchinson	coal	58.45	37.15	1.30	0.55	3.10	J. W. Paul.
"	coke	86.85	2.35		0.89	10.80	same
Moundsville Shaft	coal	52.30	43.10	1.60	2.13	4.00	same
Boggs Run	coal	47.41	44.01	1.30	3.38	3.90	J. S. Cary.
Oakland	coal	66.35	25.68	0.45	1.48	7.25	B. & O. R. R.
Austin	coal	58.00	38.00	1.50	0.50	1.20	P. B. Wilson.
"	coke	87.98		0.45		11.57	same
Flemington	coal	80.32	13.99	1.05	0.299	3.34	C. A. Doremus.
"	coke	87.98		0.47		11.55	same
Coketon	coal	67.18	26.84	0.80	1.68	5.18	J. C. Attix.
"	coke	90.90	1.49	0.18	0.771	7.73	same
Thos. Shaft	coal	66.58	25.777	0.77	0.55	6.32	same
Thos Drift	coal	65.60	23.87	0.64	0.64	10.89	same
"	coke	90.00	1.16	0.15	0.70	8.64	same
Douglas	coal	69.68	22.65	1.10		6.57	same
"	coke	87.62	1.98	0.12	0.55	10.02	same
Howard	coal	57.76	37.36	1.10	1.83	3.96	S. C. Ford.

TABLE VII.

Showing Accidents Occurring in the Mines of the First District of West Virginia for the Year Ending June 30, 1895.

FATAL ACCIDENTS.

DATE.	NAME.	Age	Married or Single.	No. Orphans.	COLLIERY.	COUNTY.	NATURE OF ACCIDENT.
1894. November 20	John Donelly	57	Married	8	Blanche	Brooke	Explosion from powder and dust
1894. November 20	Antonio Stattee	30	Married		Blanche	Brooke	Explosion from powder and dust
1894. November 20	Mayllie Giscindo	27	Married		Blanche	Brooke	Explosion from powder and dust
1894. November 20	David Rowland	40	Single		Blanche	Brooke	Explosion from powder and dust
1894. November 20	Thos. Tucker	22	Single		Blanche	Brooke	Explosion from powder and dust
1894. November 20	Thos. Jordan	24	Single		Blanche	Brooke	Explosion from powder and dust
1894. November 20	Jasper Lawrence	30	Single		Blanche	Brooke	Explosion from powder and dust
1894. November 20	Mike Rooney	35	Single		Blanche	Brooke	Explosion from powder and dust
1894. December 8	John Yonker	28	Married		Blanche	Brooke	Run over by mine car. Back broken
1895. June 13	L. J. Day	48	Married	4	Clarksburg	Harrison	Falling slate
1895. April 2	Thos. Calary	52	Single		Elk Garden	Mineral	Run over by mine cars
1894. November 5	Paul Irras	38	Single		Montana	Marion	By fall of coal
1895. January 9	Jno. Hodock	16	Single		Montana	Marion	Run over by loaded mine cars
1894. September 19	Hezikiah Cornell	45	Married	4	Prichard	Marion	Fall of slate
1895. May 25	C. L. Birtcher	50	Married	3	Monongah	Marion	Explosion of powder. Suffocation
1895. May 25	Thos. Shaver	15	Single		Monongah	Marion	Explosion of powder. Suffocation
1895. May 25	Luke Vinka	34	Single		Monongah	Marion	Explosion of powder. Suffocation
1895. May 25	Andrew Dohney	32	Single		Monongah	Marion	Explosion of powder. Suffocation
1894. July 9	Jno. Poles	45	Single		W. Fairmont shaft	Marion	Fall of slate
1894 August 4	Angelo Woods		Married	1	Douglas	Tucker	Fall of slate
1895. June 22	Owen McFarland		Single		Douglas	Tucker	Fall of slate
1895. May 10	Jno. Genoka	33	Married		Monongah	Marion	Fall of slate

TABLE VII.—*Continued.*

NON-FATAL ACCIDENTS.

DATE.	NAME.	COLLIERY.	COUNTY.	NATURE AND CAUSE OF ACCIDENT.
1894. November 20	Thos. Morris	Blanche	Brooke	Slightly burned by powder explosion
1894. November 20	Reffel Minkie	Blanche	Brooke	Slightly burned by powder explosion
1894. June 10	Steve Kelnic	Clarksburg	Harrison	Ankle crushed by fall of coal
1894. August 10	Chas. Fazenbaker	Hampshire	Mineral	Burned on hands and face by powder
1894. September 18	P. S. Rice	Elk Garden	Mineral	Knee broken between cars
1895 February 6	C. Stephens	Austin	Preston	Right leg broken, fall of slate
1895. June 3	Ed Whitaker	Austin	Preston	Hand mashed between mine cars
1895. June 4	Jno. Kelley	Austin	Preston	Head cut by fall of slate
1894 December 17	Wm. Nester	Tyrconnel	Taylor	Two ribs broken by fall of slate
1894. September 1	Jno. Simaston	Tyrconnel	Taylor	Caught between cars, leg broken
1894. December 29	Tony Frank	Douglas	Tucker	Right arm broken by fall of slate
1894. August 7	Chas Route	Coketon	Tucker	Hurt between mine cars
1894. August 9	Robt. Marsh	Coketon	Tucker	Hand mashed between cars
1894. September 13	W. W. Skinner	Thos. Shaft	Tucker	Leg broken between cars

REPORT

OF

INSPECTOR OF MINES.

Second District of West Virginia.

To His Excellency, WM. A. MACCORKLE,
Governor of West Virginia:

SIR:—In compliance with section 4 of the Mining Law of the State of West Virginia. I have the honor of submitting my annual report for the year ending June 30th, 1895.

The tables embraced in this report show the number of mines in operation, the average number of miners and other employees connected therewith, the number of fatal and non-fatal accidents, the number of tons of coal and coke produced, the location of collieries, their post-offices and names of the superintendents and mining bosses.

By reason of the late depression in the coal trade, I regret to report a slight decrease in the production of this district; yet the number of new operations under way show that in the near future West Virginia will be one of the leading coal producing states.

The extension of the Charleston, Clendennin & Sutton Railroad now under construction will be the output for fine coal fields in Clay county. Also the Kelley's Creek Improvement Company's railroad is the means of the development of a fine coal field on Kelley's creek.

I note with pleasure that most of the operators and mine officials show a disposition to comply with such instructions as I gave, but there are some, however, who have not fully complied with the law and there is room for much more improvement.

I have visited all the mines in my district twice during the year.

There have been seven furnaces and one fan erected during the year. I hope by the end of the next year to report all the mines in my district in first-class condition, and a marked increase in the production of coal.

Very Respectfully,
P. L. BRANNEN, *Inspector of Mines of*
Second District West Virginia.

EASTBANK, W. VA.

LOCATION OF MINES IN THE SECOND DISTRICT OF WEST VIRGINIA.

Mason County.

NEW HAVEN—(P. O., Spilman.)

This mine is located on the Ohio River Railroad and is operated by the Consumers' Coal and Mining Company. Coal is shipped by both rail and river. It is a slope mine and a stationary engine is used for hauling the coal out of the mine. The mine is ventilated by a fan and the ventilation is very good. Drainage fair. The roads were very muddy on my last visit to the mine, as they had a great deal of water to haul and the waste from the boxes caused considerable mud. Tracks good. H. L. Roush, Superintendent and Mine Boss.

HARTFORD—(Hartford, P. O.)

This mine is operated by the Hartford City Salt Company and is located on the Ohio River at Hartford. The ventilation is very good and drainage fair. Roads not in very good condition. The coal produced at this mine is used for the manufacture of salt. D. E. Newton, Superintendent; Richard Jenkins, Mine Boss.

CALIFORNIA MINE (P. O. Hartford.)

This mine is operated by Juhling Brothers & Company, and is located on the Ohio River Railroad and Ohio river, at Hartford. The coal is shipped by both river and rail. This is a slope mine and a stationary engine is used for pulling the coal from the mine. The mine is ventilated by a furnace, and the ventilation was not very good. I requested the mine boss to put up some trap doors and to take down some loose slate on main entry. Roads and drainage are not very good. —— Juhling, Superintendent; Richard Trumbull, Mine Boss.

LIVERPOOL MINE—(P. O. Hartford.)

This mine is located on the Ohio River Railroad at Hartford, and is operated by the Liverpool Salt & Coal Company. The ventilation is good and the mine generally is in a very good condition. All the coal produced at this mine is used at the furnace for the manufacture of salt. Charles Clifton, Superintendent; Harry Hart, Mine Boss.

McDANIEL'S MINE—(P. O., Hartford City.)

This mine is located about one mile north of Mason City on the Ohio River Railroad and is operated by Pierce Brother's Coal Company. The mine is ventilated by a furnace and the ventilation is very good. The mine generally is in very fair condition. J. F. Pierce, Superintendent; Charles A. Pierce, Mine Boss.

HOPE MINE—(Mason City, P. O.)

This mine is located at Mason City, on the Ohio River Railroad and is operated by the Hope Salt and Coal Company. This mine is ventilated by a furnace and the ventilation is very good. Roads and drainage good. All the coal from this mine is used at the furnace for the manufacture of salt. Henry Williams, Mine Boss.

STERLING—(P. O. Clifton.)

This mine is located on the Ohio River Railroad at Clifton, and is operated by the Sterling Coal & M'f'g Company. This mine has run very little during the year. I made a visit to this mine but it was not running and I did not make any inspection. E. W. Tompkins, Superintendent; Earl Henry, Mine Boss.

CEDAR HILL MINE—(P. O. Clifton.)

This mine is located on the Ohio River Railroad, about half a mile south of Clifton and is operated by Powell & Joseph. It is ventilated by a furnace and the ventilation is very good. Drainage and tracks good. ——— Powell, Superintendent; Joseph Joseph, Mine Boss.

NEW CASTLE—(P. O., Middleport, Ohio.)

This mine is located on the Ohio River Railroad about two miles north of Camden and is operated by W. E. Edwards. The mine is ventilated by a furnace. Ventilation fair and the condition of the mine is very good. This is a small operation working only a few men. W. E. Edwards; Dickey Weath, Mine Boss.

CAMDEN MINE—(Spilman P. O.)

This mine is located on the Ohio River on the Ohio River Railroad and is operated by the Consumers' Coal and Mining Company.

The coal is shipped by both rail and river. A mine locomotive is used for hauling the coal out of the mine. The mine is ventilated by a furnace and the ventilation is fair. The general condition of the mine is very good. H. E. Spilman, Superintendent; W. J. B. Rollins, Mine Boss.

Kanawha County.

BLACK BAND—(P. O., Spring Hill.)

This mine is operated by the Black Band Mining and Manufacturing Company, and is located on a branch railroad on Davis Creek, about fourteen miles from the Chesapeake & Ohio mainline. The seam of coal mined at this place is a black coal. The mine is ventilated by two furnaces and the ventilation is very good. I found they had a boy only ten years old attending a trap door in the mine. I called the attention of the mine boss to the law and he at once removed him. Roads and drainage very good. This company ships coal by both river and rail. A. M. Wooldredge, Superintendent; James Noble, Mine Boss.

FALLING ROCK—(P. O, Jordan.)

This mine is located about eighteen miles from Charleston on a branch line of the Charleston, Clendennin & Sutton Railroad. (The branch line, however, is owned by the Falling Rock Cannel Coal Company) and is operated by the Falling Rock Cannel Coal Company. This is a new mine opened during this year. The seam worked is a cannel coal. The principal work there has been driving entries. They are now shipping coal. They have natural ventilation at present, which is very good. The general condition of the mine is very good. J. B. Weir, Superintendent; James Arrington, Mine Boss.

GRAHAM MINE.—(P. O., Graham.).

This mine is located about eight miles from Charleston, on the Charleston, Clendenin & Sutton Railroad and is operated by the Charleston & Elk River Coal Company. This mine is ventilated with a furnace and the ventilation is very good. Road and drainage good. T. J. Mason, Superintendent; W. H. Green, Mine Boss.

ST. MARY'S—(P. O., Graham Mines.)

This mine is located on Elk River about seven miles from Charleston, on the Charleston. Clendennin & Sutton Railroad. They were only working seven men, and it did not come under the law, but the condition of the mine as to ventilation, drainage, tracks, etc., was not very good. Joseph Pirrung, Superintendent and Mine Boss.

CAMPBELL'S CREEK—(P. O., Malden.)

This company operates two mines, the New and the Calderwood Mine. They are located on a branch road up Campbell's Creek. Calderwood is about two miles and New Mine is about one and a-half miles from the main line of the Kanawha & Michigan Railway. The coal is shipped by both river and rail. I visited these mines twice during the year. Calderwood is an old mine, the principal work being drawing pillars. They are also using two electric machines for mining, which prove to be a success. The mine is ventilated by a furnace and the ventilation is very good. Roads and drainage also good. New Mine is also ventilated by a furnace. Ventilation fair. General condition of the mine, except the air, was good. On my second visit the air was no better. They have a very good furnace, but it is a large territory to draw the air and I did not consider it sufficient, so I requested the mine boss to put up a fan, which he said he would ask the superintendent to do. J. E. Dana, Superintendent; William B. Calderwood, Mine Boss.

QUINCY MINE—(P. O., Malden.)

This mine is located about one-half mile east of Malden on the Kanawha & Michigan Railroad, and is operated by J. Q. Dickinson & Company. They work the Campbell's Creek seam which is a splint coal 4 feet thick. All the coal produced at this mine is used at the furnace for the manufacture of salt. This mine is in very good condition as to ventilation, tracks and drainage. It is also timbered well. William Dickinson, Superintendent; D. Howery, Mine Boss.

WINIFREDE—(P. O., Winifrede.)

This company has three mines, but all working the same seam. They are located about five miles from the Chesapeake & Ohio Railroad on a branch road of their own, standard guage and a good river tipple. I visited Number 1 mine December 20, 1894 and May 30, 1895. This opening is ventilated by a fan which gives good results. They have an electric plant and run three machines for digging which they work very successfully. On my last visit they were putting up a much larger plant. R. B. Cassady, Superintendent; G. W. Nelson, Mine Boss. Number 2 South mine is also ventilated by the same fan that ventilates the north. I visited this mine December 17, 1894 and May 31, 1895. The ventilation was very good in nearly all the mine except the third and fourth left entries which was not very good. The fan has a long distance to furnish this air. The mine is in a general good condition. The coal is hauled from this mine by means of a mine locomotive which goes in the mine about 2000 feet; they have a furnace to draw the smoke from the engine out of the mine. R. B. Cassady, Superintendent; James Youell, Mine Boss. Number 3 West Mine:

I visited this mine on December 20, 1894 and June 4, 1895. They also use locomotive in this mine about 2000 feet that hauls the coal. This mine is ventilated by a furnace and the ventilation is very good except at the head of some entries where they had two break-throughs opened. Mine boss said he would have one closed in each entry. The mine generally is in good condition. R. B. Cassady, Superintendent; James Morgan, Mine Boss.

BLACK DIAMOND—(P. O., Lewiston.)

This mine is operated by R. W. Petre, lessee, and is located on the Kanawha & Michigan Railway, about fifteen miles east of Charleston. This is a splint coal and the seam is about four feet thick. The coal is shipped by both river and rail. The ventilation in the mine is natural. On my first visit November 22, 1894, I found the ventilation very good, except in the head of the main entry, which was not very good—but it was very near through the mountain. On my second visit April 23, 1895, the main entry had been driven through the mountain and the ventilation was good. Roads and drainage good. The entries were clean; no loose slate along the roads and every thing in good condition. Z. I. Krieger, Superintendent; A. P. Shearer, Mine Boss.

PEERLESS—(P. O., Peerless.)

This mine is located on the Chesapeake & Ohio Railroad, about four miles west of Coalburgh. It is a thirty-inch gas seam. This mine is ventilated by a fan, which is a very good one. It will furnish sufficient air for the mine, but I found on my first visit August 29, 1894, that they had been very careless in putting in stoppings, and allowed a great deal of air to waste before it reached the men at the head of the workings. I requested the boss to repair the stoppings and do all the necessary work to put the mine in good condition, which he agreed to do: second visit April 24, 1895. Ventilation very good. Mine in fair condition as to roads and drainage. W. B. Stevens, Superintendent; Joseph Coleman, Mine Boss.

ACME MINE—(P. O., Acme.)

This mine is owned and operated by the Stevens Coal Company, and is located on a branch road of the Chesapeake & Ohio about 14 miles up Cabin creek. It is the Coalburgh seam, 4 feet 4 inches thick. This mine is ventilated from natural causes. On my first visit, October 22, 1894, I found the ventilation not very good. The boss was having some break-throughs driven and putting up some trap doors which will help the air a great deal. Second visit May 10, 1895: The ventilation was some better but not yet up to what the law requires. I requested the mine boss and superintendent to put up a fan or furnace, which they will do, as this company is very prompt in trying to comply strictly to the law. The company has an electric plant which runs four machines to mine coal with, and they work very successfully. The mine is in general good condition. E. F. Stevens, Superintendent; John Shearer, Mine Boss.

KEYSTONE MINE—(P. O., Acme.)

This mine is owned and operated by Stevens Coal Company, and is located one-half mile west of Acme on the same road. It is a soft gas coal, seam five feet thick. I visited this mine October 24, 1894. It is ventilated by a fan which produces about 19,000 cubic feet of air but owing to some leaks in stoppings, a good deal is wasted. The boss said he would have the leaks repaired. Second visit: The ventilation good. I found some of the miners using kerosene oil. I requested the boss not to allow any one to use such oil in the bank. The roads, drainage and mine generally is in good condition. E. F. Stevens, Superintendent; John S. Holmes, Mine Boss.

COALBURG COLLIERY COMPANY—(P. O., Ronda.)

This mine is located on Cabin Creek, on a branch line of the Chesapeake & Ohio Railroad, about four miles from the main line. The seam worked is the Coalburg seam and is about six feet thick at this place. It is a splint coal. My first visit to the mine was on November 21, 1894. This is a new mine, only been running about five months. The ventilation natural, and not very good, but they were driving some cross entries, and as soon as they connect them which will be only about ten days—the air will be good. Second visit April 25, 1895. They had made their connection with cross-entries and air course. Ventilation good. They have ninety feet to drive to where they will sink a shaft and build a furnace. This is bad roof but well timbered. Roads and drainage good. S. H. Montgomery, Superintendent; William Thompson, Mine Boss.

COALBURG—(P. O., Coalburg.)

This mine is on the Chesapeake & Ohio Railroad at Coalburg. The coal is shipped by both rail and river, having two good tipples. Their seam of coal is four feet thick and of a good quality. Number 3, or old opening, I visited August 20, 1894. The ventilation is natural but very good. The principal work in this mine is drawing pillars. Drainage and roads are very good. Number 1, or new opening: this mine's main entries are through the mountain, and ventilation is natural; on my first visit, August 20, 1894, I found the ventilation not very good, owing to some leaks in some of the trap doors, which the boss said he would have fixed. On my second visit, March 2, 1895, the ventilation was bad. The boss said the mine had not been ruuning much, and that it had been so cold he could not do some work that was necessary to be done at the mouth of entry back of the mountain, where there was water and everything was frozen up. In April I visited this mine again and requested the boss to put up a furnace which he said he would do at once. Arthur Robinson, Superintendent; James Macleery, Mine Boss.

PEABODY—(P. O., Shrewsbury.)

This mine is located on the Kanawha & Michigan Railroad on the north side of the Kanawha River, opposite Coalburg. They have six feet of clean splint coal. I visited this mine November 22, 1894. They have an entry driven through the mountain and the ventilation is natural and very good. On my second visit April 20, 1895, there were only a few men in the mine. The coal is shipped by both rail and river. The mine is in very good condition generally. J. A. Carter, Superintendent; J. J. Neylon, Mine Boss.

MONARCH—(P. O., Monarch.)

This mine is located on the Kanawha & Michigan Railway, about one and a half miles west of Cedar Grove. They are working two seams - the Coalburg and No. 5, Coalburg seam. I visited this mine December 18, 1894. It is ventilated by natural causes and the ventilation is very good. There were only a few men working in it. On my second visit April 20, 1895, they had opened two new entries about four hundred yards east of the old entries, and the ventilation was notvery good. I requested the mine boss and superintendent to build a furnace, which they said they would do. I visited the No. 5 seam on December 20, 1894, and April 20, 1895. This mine is ventilated from natural causes. They have an entry driven through the mountain and the ventilation was very good, except a few places that were between two faults. This seam is very faulty. Some places the rock having cut the coal entirely out. The coal is shipped by both rail and river. Roads and drainage very good. J. D. Harris, Sup't; Charles Armstrong, M. B.

EASTBANK COAL & COKE CO.—(P. O., Eastbank.)

This mine is located on the Chesapeke & Ohio Railroad at Eastbank. It is the Cedar Grove Seam, three feet clean coal. I visited this mine October 22, 1894. The mine is ventilated by a furnace. They were only working a few men and the ventilation was sufficient. On my second visit, April 18, 1895, I found the ventilation not good. Three of the stoppings had rotted down and the holes in the trap doors allowed all the air to waste before it reached the men in their working places. I notified the boss to put up some new stoppings and trap doors, and drive a break-through at the head of third and fourth right cross entries, which he said he would do. J. W. Wilson, Superintendent; A. T. Hudnall, Mine Boss.

CEDAR GROVE MINING CO.—(P. O. Cedar Grove.)

This mine is located on the Kanawha & Michigan Railroad and Kanawha river, at Cedar Grove. It is a gas seam below the level of the railroad. This is a slope mine and they use a stationary engine to pull the coal out of the mine. They only had one slope to a river tipple until this summer, when they opened up a new slope about five hundred yards east of the old one, and built a fine railroad tipple. They are now able to ship coal by both river and rail. This mine is ventilated by a fan and on my first visit, August 10, 1894, I found the ventilation very good. Roads and drainage also good. On my second visit, April 15, 1895, I found the ventilation good except on the third and fourth right cross entries. They had no trappers to keep the door closed, and there were two break-throughs open which cut air off from the head of the entries. I notified the boss to stop up one of the break-throughs, also to put on trappers and keep the doors closed, which he said he would do. The seam is 3 ft. 8 in thick. H. P. Helwig, Sup't; T. B. Slusser, M. B.

CEDAR GROVE MINING COMPANY.

This mine is located at Cedar Grove and operated by the same company that operates the gas seam. It is three feet thick clean coal. It is ventilated by a fan and the ventilation is very good. Road and drainage also good. H. P. Helwig, Superintendent; Clark Hudnall, Mine Boss.

BIG MOUNTAIN.—(P. O., Cedar Grove.)

This mine is located on Kelley's Creek about one mile from the main line of the Kanawha & Michigan Railway, on a branch road owned by the company. It is operated by the Big Mountain Mining Co. They are operating two seams—the Coalburg and Cedar Grove. Coalburg seam on my first visit November 28, 1894, I found that this was a new mine just opened up during the year and only been running about two months. Ventilation natural and very good. On my second visit April 19, 1895, I found that they had built a furnace since my last visit and the ventilation was good. The coal is four and a half feet thick. Roads and drainage good. Cedar Grove seam.—I visited this mine, first visit, November 28, 1894. This is also a new mine, only been running about two months. Ventilation natural but very good. On my second visit April 19, 1895, I found they had a good many men in the mine, and the ventilation was not as good as on my first visit. I requested the mine boss and superintendent to put up a fan, which they promised to do, and within one month from the time I requested it, it was put up. This company is very prompt in complying to the law and try to keep their mine in good condition. The Cedar Grove seam is three feet thick clean coal of the best quality. S. A. Alexander Superintendent; J. S. Miller, Mine Boss.

MAMMOTH—(P. O. Mammoth).

This mine is located on the Kelley's Creek Improvement Company's Railroad, about four and one-half miles from the Kanawha & Michigan main line, connecting at Cedar Grove. This company opened up the Coalburg seam, and had made a great deal of improvement and had their tipple nearly completed when one of the company, Mr. T. L. Montgomery, died. The company has done nothing since. John Straughan, Superintendent.

STAUNTON—(P. O. Mammoth).

This mine is located on Kelley's creek, on the Kelley's Creek Improvement Company's Railroad, about five miles from the main line of the Kanawha & Michigan, and is operated by the Staunton Coal Company. This is a new mine, having been opened up in the last six months. On my first visit to this mine, they had made a great many improvements and had commenced to ship coal. The mine is well opened up and has a good furnace. Ventilation good. Roads and drainage also in good condition. This company is working the Lewiston seam, which is good coal. They are opening Coalburg seam also. M. Beane, Superintendent and Mine Boss.

THE THOMAS SCHOLZ COAL COMPANY—(P. O., Mammoth.)

This mine is located 5¾ miles from the K. & M. main line on the K. C. I. Co. R. R., connecting with the K & M at Cedar Grove. On my visit to this mine I found it had been opened in the last six months and had shipped no coal yet, but was nearly ready to commence shipping. They had a fine tipple just completed and all of their machinery in. They are operating the Coalburg seam which is 5 feet 10 inches thick at this point, and a first class quality of coal. The mine has been opened up in good shape. They were driving double entries and the ventilation was natural, but they will build a furnace as soon as needed.

C. Scholz, Superintendent; D. L. Ralinson, mine boss.

KELLEY'S CREEK COAL COMPANY—(P. O., Mammoth.)

This mine is located on Kelley's Creek, on the K. C. I. Co. R. R., about 6 miles from the K. & M. main line. At the time of my visit this mine had been opened in the last six months. They were not yet ready to ship coal, but were making extensive operations. They are operating the Lewiston seam. This is a very fine coal. A. C. Findley, Superintendent; James Morris, Mine Boss.

BLACK CAT—(P. O., Crown Hill.)

This operation is located one-fourth mile west of Belmont, and is operated by Ballard & Welch Coal Co. They are operating the Coalburgh and Lewiston seams, and ship coal by both rail and river. Lewiston Seam, No. 1—First visit August 8, 1894. Ventilation very good except in the head of the main entries. There were three break throughs open which cut the current of air off from the headings. 2d. opening, which is east of No. 1, has no furnace stack, and the ventilation is not very good I requested the mine boss to fix the furnace and put up stoppings in entry No. 1. Coalburgh Seam Ventilation not very good. I requested the boss to build a furnace or put up a fan. On my second visit the Company had made an assignment and has run none since George Welch, Superintendent; Thomas Burke, Mine Boss.

BELMONT.—(P. O., Crown Hill.)

This mine is located on the C. & O. Ry., about 3 miles west of Handley, and is operated by the Belmont Coal Co. They are working two seams, the Lewiston and Coalburgh. The Lewiston seam is 4 feet and the Coalburgh 5 feet thick. Coal is shipped by both river and rail. The ventilation in the Lewiston seam is natural. They have an entry driven through the mountain and the ventilation is sufficient. Drainage and roads, very good. Coalburgh seam, on my first visit August 9, 1894; the ventilation was bad, I requested the mine boss to put up a fan or a large furnace. On my second visit December 10, 1894, they had not complied with my request, but was driving an entry through the mountain. I informed the boss that I would wait until they got their entry through the mountain and see what effect it would have on the ventilation. On my third visit April 22, 1895, the entry was through the mountain and the ventilation was much better; but they had no fire in the furnace and had not put up some trap doors that were needed. I requested the boss to keep a fire in the furnace and put up the doors and fix his stoppings, all which he promised to do. J. C. Morrison and T. E. Embleton, Superintendents; P. H. Embleton, Mine Boss.

RIVERSIDE—(P. O. Riverside.)

This mine is on the K. & M. Railway, about 2 miles east of Cedar Grove, and is operated by the Riverside Coal Co. They are operating the Cedar Grove seam, 3 feet thick. It is ventilated by a furnace, but the ventilation was not very good. I told the boss to have break throughs driven, fix up some stoppings and have two trap doors put up, which he promised to have done. Roads and drainage very good. On my second visit the ventilation was not good. They had not complied with all the requests that I had made, and one trap door that they had put up had been knocked down. and not put back in its place. Mine boss said he would put it back in place and fix up the rest of his doors and stoppings at once. Geo. Straughan, Sup't; E. F. Straughan, M. B.

CROWN HILL—(P. O., Crown Hill.)

This mine is located on the Chesapeake & Ohio Railroad, about three-quarters of a mile west of Paint Creek, and was operated by the New York and West Virginia Coal and Iron Company. They work three seams—the Lewiston, Coalburg and Kanawha—and ship coal by both rail and river. Have not run any this year. Brewer Smith, Superintendent; John Nugen, Mine Boss.

CHESAPEAKE—(P. O., Handley.)

This mine is located on Lower Creek about one mile from main line of the C. & O. Railway. They have a narrow gauge railroad from the mine and haul the coal with a small locomotive. They have both railroad and river tipples and is one of the largest mines in my district. The mine is ventilated by a fan and the ventilation is very good in nearly all the mine. In some entries at the head it was close, as the drive was too far between break-throughs. Roads and drainage very good. J. B. Lewis, Superintendent; Alexander Thompson, Mine Boss.

CONSOLIDATED—(P. O., Montgomery.)

This mine is located about one mile east of Handley and is operated by Consolidated Mining Company. It is on the C. & O. R'y and Kanawha river and operates 3 seams, Coalburg, Kanawha and Winifrede. The ventilation is natural in all but one opening in the Coalburg seam, which has a furnace. The ventilation was only fair, not as good as it should be. Drainage and roads fair. Chas. Trudgen, Superintendent; Edward Pinking, mine boss.

UNION MINES—(P. O., Montgomery.)

This mine is on the C. & O. R'y about one mile west of Montgomery and is operated by the Union Coal Company. They are operating two seams, the Coalburg Splint & Coal Valley Gas. The Coalburg seam is ventilated from natural causes which was fair. Roads and drainage very good. Gas Seam—Ventilation not very good. Roads and drainage not very good. I requested the boss to clean up the roads, take down some loose slate and have the trap doors repaired and keep them closed, all of which he promised to do. Chas. Trudgen, Superintendent; John Allen, mine boss.

CANNELTON COAL CO.—(P. O., Cannelton.)

This operation is on a short line about five miles up Smither's creek from the K. & M. Ry. It is a Cannel coal seam, average thickness 3 feet, and is a good quality of Cannel coal. I visited this mine twice during the year, but it was not running and I did not go inside the mine. They only run five months during the year. This and the gas seam belong to the same company. They have a river tipple and can ship by either rail or water. Henry Davis, Superintendent; Robert Taylor, Mine Boss.

CANNELTON COAL CO.—(P. O. Cannelton.)

This mine is on a short line R. R. up Smither's creek, about one mile from the main line of the K. & M., and is operated by the Cannelton Coal Co. It is a gas seam 7 ft. thick. They have 50 coke ovens now in operation. I visited this mine twice during the year. On my first visit I found the ventilation not very good, as the furnace was too small. I called the attention of the mine boss, also the superintendent, to it, and they informed me that they intended building a larger one at once. On my second visit they had the new furnace almost completed. It is a good one, and will furnish good ventilation. Roads and drainage good. Henry Davis, Sup't; Robt. Taylor, M. B.

MINE STATISTICS.

TABLE A.

Showing Fatal Accidents in the Second District of W. Va., for the Year Ending June 30, 1895.

NAME.	WHERE KILLED	DATE OF ACCIDENT.	OCCUPATION.	HOW KILLED.
Wm. Roush	New Haven	October 26, 1894	Miner	Fall of slate.
Henry Watson, (col)	Campbells Creek	May 13, 1895	Miner	Fall of slate.
Thos. B. Collins	Coalburg Colliery Co.	February 22, 1895	Mine Boss	Thrown from cars on trestle.
Martin Bragg	Belmont	May 10, 1895	Driver	Cars running over him.
Alonzo Enbanks	Riverside	April 26, 1895	Miner	Fall of kettle bottom.
Monroe Smith, (col)	Consolidated	November 2, 1894	Miner	Car on incline.

TABLE B.

Showing Non-Fatal Accidents in the Second District of West Virginia for the Year Ending June 30, 1895.

Name.	Where Accident Occurred	Date.	Occupation.	Nature of Injury.	How Injured.
Richard Burks	New Haven	March 14, 1895	Miner	Slight	Fall of slate.
Everil Booth	Camden	December 19, 1894	Driver.	Injured about face	Fall of slate.
John Woods (col)	Campbell's Creek	May 13, 1895			Fall of slate.
John Kinnison	Campbell's Creek	June 6, 1895			Fall of slate.
Wm. D Leftwich	Campbell's Creek	May 27, 1895			Fall of slate.
W. O. Blackburn	Campbell's Creek	May 30, 1895			Fall of slate.
Geo. Williams	Winifrede	February 11, 1895.	Day laborer	Broken ankles	Fell from North Tipple.
Jefferson Farley	Stevens Coal Co.	August 4, 1894	Driver.	Ankle & thigh br'k	
J. F. Smith	Stevens Coal Co	June 14, 1895	Miner.	same	Fall of slate.
Will Scragg	Cedar Grove	August , 1894	Miner	Seriously injured	Fall of slate.
Geo. Hicks	Big Mountain	June 14, 1895.	Miner.	Back injured	Fall of draw slate.
Henry Ball	Belmont	October 20, 1894	Miner.	Hurt in breast	Fall of slate.
Robert Franklin (col)	Chesapeake	January 22 1895.	Miner	Pretty bad	Burned by powder.

TABLE C.

Showing Location of Collieries in the Second District of West Virginia.

Name of Colliery.	Name of Operator.	Name of Superintendent.	Location—County.	P. O. Address.
New Haven	Consumers Coal and Mining Co.	H. L. Roush,	Mason Co.	Spilman.
Hartford	Hartford City Salt Co.	D. E. Newton	same	Hartford.
California	Juhling Coal Co.	O. Juhling	same	same
Liverpool	Liverpool Salt and Coal Co.	Chas. Clifton	same	same
McDaniels	Pierce Bro's Coal Co.	J. F. Pierce	same	same
Hope	Hope Salt and Coal Co.		same	Mason City.
Sterling	Sterling Coal and Manufacturing Co.	E. W. Tomkins	same	Clifton.
New Castle		W. E. Edwards		Middleport, O.
Cedar Hill	Joseph & Powell	—— Powell	same	Clifton, W. Va.
Camden	Consumers Coal and Mining Co.	H. E Spilman	same	Spilman.
Sunny Side	Black Band Mining and Mfg Co.	A. M. Wooldredge	Kanawha Co.	Spring Hill.
Falling Rock	Falling Rock Cannel Coal Co.	J B. Weir	same	Jordan.
Graham		T. J. Mason	same	Graham Mines.
St. Mary's	St. Mary's Coal Co.	J. Pirrung	same	same
New & Calderwood	Campbell's Creek Coal Co.	J. E. Dana	same	Malden.
Quincy	J. Q. Dickinson & Co.	Wm. Dickinson	same	same
Winifrede, Nos 1, 2, and 3	Winifrede Coal Co,	R B. Cassady	same	Winifrede.
Black Diamond	R. W. Petre, Lessee	Z. T. Krieger	same	Lewiston.
Peerless	The Peerless Coal Co.	W. B. Stevens	same	Peerless.
Acme	Stevens Coal Co	E. F. Stevens	same	Coalburg, W. Va.
Keystone	same	same	same	same
Coalburg Colliery Co.	Coalburg Colliery Co.	S. H. Montgomery	same	Ronda.
Coalburg	The Robinson Coal Co.	Arthur Robinson	same	Coalburg.
Peabody	Peabody Coal Co.	J. A. Carter	same	Shrewsbury
Monarch	Monarch Coal Co.	J. D. Harris	same	Monarch.
Chestnut Point	Eastbank C & C. Co	J. W. Wilson	same	Eastbank.
Cedar Grove, No. 1	Cedar Grove Mining Co.	H. P. Helwig	same	Cedar Grove.
Cedar Grove, No. 2	same	same	same	same
Big Mountain	Big Mountain Mining Co.	S. A. Alexander	same	same
Mammouth	Mammouth Coal Co.	Jno. Straughan	same	Mammouth.
Staunton	Staunton Coal Co.	M. Beane	same	same
Thomas & Scholz	Thomas & Scholz Coal Co.	C. Scholz	same	same
Kelley's Creek	Kelley's Creek Coal Co.	A. C. Findley	same	same
Black Cat	Ballard & Welch	G L. Welch	same	Crown Hill.
Belmont	Belmont Coal Co.	Morrison & Embleton	same	same
Riverside	Riverside Coal Co.	Geo. Straughan	same	Riverside.
Crown Hill	The Crown Hill Colliery Co.	Robt Mauchline	same	Crown Hill.

TABLE C.—*Continued.*

Showing Location of Collieries in the Second District of West Virginia.

Name of Colliery.	Name of Operator.	Name of Superintendent.	Location—County.	P. O Address.
Chesapeake	Chesapeake Mining Co	J. B. Lewis	Kanawha Co	Handley.
Consolidated	Consolidated Mining Co	Chas. Trudgen	same	Montgomery.
Union Mines No. 2	Union Coal Co	same	same	same
No. 2 Gas	Cannelton Coal Co	Henry Davis	same	Cannelton.
Cannel	same	same	same	same

TABLE D.

Showing Number of Employees, &c., of Collieries in the Second District of West Virginia.

NAME OF COLLIERY	Number of Employees.				Kind of Mine.	Mode of Ventilation.	COAL.				No. of Coke Ovens.
	Inside Mine.	Outside Mine.	At Coke Ovens	Total.			Seam Worked.	Thickness.		Kind.	
								Ft.	In.		
New Haven	99	14	......	113	Slope	Fan	Pittsburg	4	6	Bituminous	
Hartford	23	6	......	29	Slope	Furnace	Pittsburg	4	6	Bituminous	
California	70	8	......	78	Slope	Furnace	Pittsburg	4	6	Bituminous	
Liverpool	19	2	......	21	Drift	Furnace	Pittsburg	4	6	Bituminous	
McDaniels	21	2	......	23	Drift	Furnace	Pittsburg	5	...	Bituminous	
Hope	20	3	......	23	Drift	Furnace	Pittsburg	4	6	Bituminous	
Sterling	34	6	......	40	Drift	Furnace	Pittsburg	5	...	Bituminous	
New Castle	29	2	......	31	Drift	Furnace	Pittsburg	4	...	Bituminous	
Cedar Hill	15	2	......	17	Drift	Furnace	Pittsburg	4	6	Bituminous	
Camden	89	8	......	97	Drift	Furnace	Pittsburg	4	...	Bituminous	
Sunnyside	170	15	......	185	Drift	Furnace	Black Band Block	0	3½	Block	
Falling Rock	20	6	......	26	Drift	Natural	Cannel Coal	2	6	Cannel	
Graham	33	2	....	35	Drift	Furnace	Graham	3	...	Bituminous	
St. Mary's	15	......	......	15	Drift	Furnace	Graham	3	...	Bituminous	
New Mine	139	36	......	175	Drift	Furnace	Campbell's Creek	3 to 5	...	Semi-Cannel	
Calderwood	132	36	......	168	Drift	Furnace	Campbell's Creek	3 to 5	...	Semi-Cannel	
Quincy	18	2	......	20	Drift	Furnace	Campbell's Creek	4	...	Splint	
Winifrede No. 1	390	60	......	450	Drift	Furnace	Winifrede	5	...	Bituminous	
Winifrede No. 2					Drift	Furnace	Winifrede	5	...	Bituminous	
Winifrede No. 3					Drift	Fan	Winifrede	5	...	Bituminous	
Black Diamond	49	14	......	63	Drift	Natural	Lewiston	3	8	Splint	
Peerless	73	8	......	81	Drift	Fan	Peerless	2	6	Gas	
Acme	96	16	......	112	Drift	Natural	Coalburg	4	4	Hard Splint	
Keystone	87	16	......	103	Drift	Fan	Peerless	5	...	Soft Gas	
Coalburg Colliery Co	82	10	......	92	Drift	Furnace	Coalburg	6	...	Splint	
Coalburg No. 1	121	17	... ..	138	Drift	Natural	Lewiston	4	...	Splint	
Coalburg No. 2					Drift	Natural	Coalburg	5	...	Splint	
Peabody	70	15	......	85	Drift	Natural	Coalburg	6	...	Splint	
Monarch No. 1	60	10	......	70	Drift	Natural	Coalburg	4	...	Splint	
Monarch No. 2					Drift	Natural	No. 5	5	...	Splint	
Chestnut Point	20	2	3	25	Drift	Furnace	Cedar Grove	3	.	Gas	12
Cedar Grove No. 1	37	4	......	41	Drift	Fan	Cedar Grove	3	...	Gas	

TABLE D.—*Continued.*

Showing Number of Employees, &c., of Collieries in the Second District of West Virginia.

NAME OF COLLIERY.	Number of Employees.				Kind of mine.	Mode of ventilation.	COAL.				Number of coke ovens.
	Inside mine.	Outside mine.	At coke ovens	Total.			Seam Worked.	Thickness.		Kind.	
								Ft.	In.		
Cedar Grove, No. 2	70	4		74	Slope	Fan	Tunnel Gas	3	2	Gas	
Big Mountain, No. 1	56	7			Drift	Fan	Cedar Grove	3		Gas	
Big Mountain, No. 2				63	Drift	Furnace	Coalburg	4	6	Splint	
Mammoth	8	2		10	Drift	Natural	Coalburg	5		Splint	
Staunton	22	3		25	Drift	Furnace	Lewiston	5	6	Splint	
Thomas & Scholz	30	3		33	Drift	Furnace	Coalburg	5	10	Splint	
Kelleys Creek	30	2		32	Drift	Furnace	Lewiston	5	6	Splint	
Black Cat, No. 1	60	5			Drift	Furnace	Lewiston	4	6	Splint	
Black Cat, No. 2				70	Drift	Furnace	Coalburg	4	6	Splint	
Belmont, No. 1	125	18			Drift	Furnace	Coalburg	5		Splint	
Belmont, No. 2				143	Drift	Natural	Lewiston	4		Splint	
Riverside	44	3		47	Drift	Furnace	Cedar Grove	3		Gas	
Crown Hill, No. 1					Drift	Furnace	Lewiston	4		Splint	
Crown Hill, No. 2					Drift	Furnace	Coalburg	5		Splint	
Crown Hill, No. 3					Drift	Natural	Kanawha	4		Splint	
Chesapeake	260	15		275	Drift	Fan	Kanawha	6	6	Splint	
Consolidated, No. 1	80	16			Drift	Furnace	Coalburg	5		Splint	
Consolidated, No. 2				96	Drift	Natural	Kanawha	4		Splint	
Union Mines, No. 1	53	6			Drift		Coal Valley Gas	6		Gas	
Union Mines, No. 2				59	Drift		Coalburg	5		Gas	
No. 2, gas	92	15	35	142	Drift	Furnace	No. 2 Gas	7		Gas	50
Cannel	41	15		56	Drift	Natural	Cannel	2 ft 2 in. to 3	6	Cannel	

TABLE E.

Analyses of Coal Mined from the Different Seams in the Second District of West Virginia.

NAME OF SEAM.	Fixed Carbon.	Volatile Matter.	Water.	Sulphur.	Ash.	Name of Operator.
Acme	55.56	59.23	1.80	0.71	3.41	Stevens Coal Co.
Black Band	57.48	38.58	2.24		1.70	Black Band C. & I. Co.
Blacksburg	56.75	41.17	1.23		.85	Cedar Grove M. Co.
Cedar Grove	61.27	36.83	0.00	0.00	1.90	Cedar Grove Mg. Co.
Coalburg	62.90	32.50	4.00		1.50	Robinson C. Co.
Crown Hill	62.61	33.26	2.14	.18	1.81	
Coal Valley Gas	61.75	34.91	0.94	.16	2.40	Mt. Carbon Co., Ltd.
New River	74.04	23.20	.83	.57	1.43	All New River Co's.
Pocahontas	74.26	18.81	1.01	.72	5.19	Mercer and McDowell Co's.

Analyses of Coke Made of West Virginia Coal, Compared With That of Other Coking Districts.

NAME OF DISTRICT.	Fixed Carbon.	Volatile Matter.	Water.	Sulphur.	Ash.
Chattanooga	80.513	1.101	0.447	1.595	16.344
Birmingham	87.299	0.803	0.157	1.195	10.545
Connellsville	88.962	0.425	0.060	.810	9.740
New River	92.608	0.214	0.500	.500	6.188
Pocahontas	92.550	0.757	0.347	.597	5.749

TABLE F.

Showing Production of Coal and Coke by Counties.

COUNTIES.	From July 1, 1894, to June 30, 1895.		No. of Mines.		No. of Coke Ovens.		Number of Employees.				
	Tons coal, 2,240 lbs.	Tons coke, 2,000 lbs.	Open.	Opening.	Complete.	Under construction.	Mines.	Inside laborers.	Outside laborers.	Making coke.	Total.
Mason	171,074		10				362	62	50		474
Kanawha	1,078,253	4,928	44		62		2,093	463	388	38	2,982

REPORT

OF

INSPECTOR OF MINES,

Third District of West Virginia.

Office of Mine Inspector,
Third District West Virginia,

To His Excellency, Wm. A. MacCorkle,
Governor of State of West Virginia.

Sir: In compliance with the requirements of section four of the mining law of the State of West Virginia, relative to the proper ventilation, working, drainage and safety of Collieries and the reporting thereon of the Mine Inspectors of the several districts to your Excellency, I have the honor of submitting to you this, my report for the year ending June 30th, 1895, together with such further data of general interest as I deem it proper to set forth. Coupled with the general condition of the mines, I have noted the different thicknesses of the coal, (with partings) taken from actual measurements.

According to the best and most reliable information, I have been able to secure, the total output in this district from June 30th, 1894 to June 30th, 1895, was 5,831,829 tons of coal of 2240 lbs. 951,296 tons of coke of 2000 lbs., which show an increase over previous year of 354,973 tons of coal, and of coke 92,740 tons, employing in the mining of the same 12,827 men; a distribution of which totals may be noted by reference to a concise table appended to this report.

During the period of my inspectorship the district has been much developed by the opening of seventeen mines, and the construction of branch lines up several tributary streams; most notably, Keeney's Creek, up which we find a nine mile extension, built by the Chesapeake and Ohio Railroad, in connection with Mr. Jno. Nuttall, to develop the latter's 25,000 acres of valuable coal deposits, and where we now find five companies operating in the Sewell or Nuttallburg seam of coal of 51 inches: also we have the extension of the C. &. O. R. R. down the south side of New river to a point above and across the river from Fayette Station, and the increase of two mines to the district; while again we have the development of the Loop Creek territory, through the lands of Thos. G. McKell by a 10-mile branch Railroad from Thurmond, on the main line to MacDonald. This extension seems to tap the Sewell seam in its thickest point, where we have an average of 5 ft. 1 in. clean coal, and six operations working almost daily and having a capacity of 100 cars, or 2,500 tons; moreover we will note the extension of the Railroad up Laurel Creek at Quinnimont, and that up Meadow Creek in Summers County by the Beury Bros.

In the back of this report are such tables of collected data and information as I deem it expedient to publish, and in this connection allow me to state that for much of the matter of general interest and for valuable assistance I am under many obligations to Mr. Louis W. Atkinson, resident engineer for a number of the New River Collieries, all of which I trust will meet with your approval.

Respectfully submitted,
Signed: H. A. Robson,
Mine Inspector 3rd Dist. W. Va.

Cotton Hill, Fayette Co., W. Va.

The Pocahontas or Norfolk & Western Coal Field.

LOUISVILLE COAL & COKE CO.—(P. O., Goodwill.)

This company operates on Flipping Creek, a branch of the Blue Stone River; working the No. 3 of Pocahontas seam, which, at this point, attains a thickness of five feet, with 2½ inches of boan three feet from the bottom; above which we have from three to six inches of draw slate, which, coming down gives a hard, blue slate top. The company sets the props and lays track for the miners, but about the time that this report goes to the printer, the new regime will be in force, and the miner will not only set his own posts, but also lay his track. The mine car used at this point is said to contain 75 cubic feet.

The workings are divided into two distinct mines, the old, or

No. 1, not being worked at present, while No. 2 is working not only entries, but a few pillars are being also drawn.

The ventilation is effected by means of a first-class fan, and, while the rooms are driven quite long, the break-throughs are so carefully driven that I have always found the ventilation very satisfactory. It may be noted, in this connection, that there have been no serious accidents at this colliery during the past year.

The coal, while being semi-bituminous, is considerably harder than the greater part of the Pocahontas seam at other points, and the lumps shipped from this place, over a ¾ inch screen, is unusually clean and finds a most satisfactory market.

As noted in the former report, this company is very careful in regard to its drainage and, besides the ditching heretofore done, they were preparing to carry off considerable water from the robbings by a new drain. The falls in the old workings are very clean, and I am informed by the land company that their percentage in the winning of coal is unusually large.

The colliery is fitted with a coal crusher and other improved machinery.

Superintendent, Justus Collins; Bank Boss, Thos. Lewis.

GOODWILL COAL & COKE CO.—(P. O., Goodwill.)

Also located on the right hand fork of Flipping Creek, adjoining the Louisville Company, we have the above, there being also two distinct mines. The old one, or No. 1, will, from this time on, consist entirely of robbing, as the working was mostly on a long narrow point with a main entry somewhat of a mile in extent. On my last visit to this Company, I found that this entry lacked but a few feet of the crop, and it was the intention, as soon as this entry was worked out, to begin and draw the pillars, bringing all with them as they came. The top, in both mines, is quite treacherous, and I was forced to call their attention to the top in the main entry, which, though no doubt sufficiently posted at first, had by this time settled and become dangerous. This defect they have rectified. The ventilation and drainage have been satisfactory on all my visits. The coal shows 4 feet 9 inches with a strata of boan 3 inches thick, 3 feet from the bottom, which often disappeared and the whole seam is shipped. The top consists of four inches of soft-drawslate, which comes down with the coal leaving a fair top.

Very little of the coal is shipped from this section of the mine.

Mine No. 2, being the point at which most of the work is now done, is connected with the tipple by a 1500 ft. tramway; the coal in this section compares favorably with the above, having the same strata and impurities.

On one of my former visits I found that they were driving double width rooms, with two tracks, and on my calling their attention to the same, they informed me that the top seemed more secure under these conditions. On my last visit I noticed this system of working, and whereas I cannot report particularly favorably of the same, I cautioned them to insist upon the miners setting ample posts. This company has been rather unfortunate in regard to injury, but the promptness with which they report accident and the attention bestowed on the work by the bank boss, leads me to believe that it is the treacherous top and ill luck that occasions the casualties.

Superintendent, Phillip Goodwill; Mine Boss: No. 1, Levi Workman; No. 2, J. W. Foy.

THE BUCKEYE COAL & COKE CO.—(P. O., Simmons.)

This company is operating on the right hand fork of Simmons Creek, across the hill from and adjoining the Louisville Company. In regard to the top at this Colliery, it may be noted that, on first operating the seam they had the first class top of the Pocahontas field, but on the work progressing, towards Goodwill, they encountered the dangers of draw slate, and in the workings near the face of the main entry and contiguous thereto, they are greatly annoyed by large falls of slate, while in the old and pillar workings, the top is quite good with clean falls and good drainage. On my last report I was forced to note the accumulation of water in the main entry about 300 feet from the face. This trouble still exists and, although a comparatively small amount of coal is hauled over it, it is of such extent as to injure the general appearance of the mine. I trust that the company will rectify this little oversight and that I will not be forced to call attention to such trivial matters hereafter. The ventilation effected by means of a fan is quite good, as is also the drainage, with the above exception. The coal shows up 5 feet 6 inches with a small streak of impurity, three feet from the bottom. In the early workings of the company the appearance of the ½ inch band of sulphur with 8 inches of coal above, afforded them good and safe top, but on continuing the workings, this sulphur streak seems to have become more brittle and in nearly all cases breaks, letting down six or eight inches of coal and a foot of treacherous slate. Their new tipple is directly connected with the drift mouth and while the hauling is now done with mules, they contemplate putting on a locomotive.

Superintendent, (formerly) B. Moore; (now) Jno. D. Hewitt; Bank Boss, Thomas Gent.

THE CASWELL CREEK COAL & COKE CO.—(P. O. Simmons.)

This operation is located on Simmons creek, also a fork of the Blue Stone River, mining the Pocahontas or No. 3 seam. The workings extend from a point near Bramwell across to the Booth Bowen Company workings.

On my last report we had two distinct mines operated by the same company. Mine No. 1, or Hemlock, being the oldest and most southern portion of the lease, is that lying contiguous to the Mill Creek Company's workings, having an outlet for ventilation and drainage on the Cooper side. This is one of the Companies in whose workings the Pocahontas seam attains its greatest thickness, often reaching 7 feet 6 inches of clean coal, and being free from bone, but usually, having 18 inches of coal separated from the main body by a light sulphur band. This sulphur and top coal are usually left up, affording an unusually good top which will stand for years, and when robbed breaks with clean falls. The 2 mines are connected by an entry of considerable extent, which being connected with day light affords perfect drainage for the bulk of the workings. In this old mine there is now an entry being driven straight from the drift mouth, to the further extremity of the lease on the Mill Creek side.

Mine No. 2, although being newer than the above contains also considerable robbings. The drainage and ventilation in both of these workings are perfectly satisfactory. In my last report I made casual mention of an entry 6 000 feet long, which was just driven from the Simmons Creek side entirely through the hill to Elkhorn Creek. Of late this work has been pushed; new cross entries being turned, and the locomotive entering the same.

This operating of the new works with the locomotive was done a little too prematurely, as I was forced to call the manager's attention to the lack of sufficient stoppings and doors to satisfactorily carry off the accumulation of smoke. Old No. 1 Mine has direct connection with its tipple at the drift mouth, while Nos. 2 and 3 have hallway of 2,300 feet. All through these workings the top maintains its safe condition and am pleased to report but few accidents occurring by reason of the same.

Superintendent: Jenkin Jones; Bank Boss of No. 1, H. Cullis; Nos. 2 and 3, Milton Gilmore.

BOOTH BOWEN COAL AND COKE CAMPANY—(P. O. Simmons.)

This mine is located on Simmons Creek, opposite Casswell Coal Co, and adjoining the Buckeye. In this instance we also have what is called the old and the new mines; the former of these is now practically worked out, and while in my old report I placed 1,000 feet as the fartherest limit at which the main entry is being run, I may now place the same at about 500 feet from the drift mouth. The accumulation of water in the main entry near the face of the old workings was carefully handled and has been drained off. and now very little annoyance is experienced either in regard to the drainage of the top. How long work will be prosecuted in this section will of course depend upon the supply of cars, but the Company will endeavor to push this to completion as soon as possible as the standing of old work is an annoyance and expense. The more recent portion of the workings, or we may say in Mine No. 2, are in very good condition; the ventilation being effected by a 15 foot fan. This portion of the work is connected with the tipple by a tramway of a thousand feet, on which a locomotive is used. The coal being a No. 3 seam, is 7 feet thick with 3 inches of boan

3½ feet from the bottom, with the usual light sulphur band affording a safe top. I have been carefully over the robbings of this company, and I am pleased to report that it receives careful attention. I should judge from the different reports concerning this company that it runs as steadily and produces more coal than any company in this vicinity. They are also prepared to ship the different grades of coal and coke, while the 23 ovens, heretofore spoken of, are completed, making a total of 174, and bringing the plant to the front as one of the most extensive in the field.

Superintendent: J. P. Bowen; Mine Boss, T. E. Thomas.

MILL CREEK COAL & COKE CO.—(P. O., Cooper.)

Situated on the Mill Creek fork of Blue Stone, we have the two distinct mines of the Mill Creek Company, known as the east and west mine. The only connection is that of ventilation. The west or old mine on the left hand side of the creek, extends from a point near the portal of the tunnel to the lease of the Southwestern Virginia Improvement Company. This extensive territory being one of the first operated in the field, is now nearly worked out. Mr. John Cooper, the superintendent is using most of the coal from this mine to supply the coke ovens; since, by reason of the squeezes incident upon old workings, the output contains more slack than usual. A great deal of the work is and has been done under subcontracts. Considerable expense and trouble have had to be overcome in the successful handling of the water, accumulated from the large falls and breaks in the top, but on my last visit I found very little in this regard to complain of.

The coal attains a thickness of 10 feet being in most cases entirely clean, and it may be noted in this connection, that in this mine and Coaldale contiguous thereto, we find the only section of coal free from the boan, usually noted in the Pocahontas seam. The top, throughout the workings, is good. Connected with the west side by a 15 ft. fan and air-way we have the east or new mine. In this section of the mine we have an unusually large amount of new work opened up, there being entries of considerable extent with good top, good drainage, good ventilation, and room to simply turn, awaiting an increase in men and cars for a corresponding increase of output.

Immediately connecting this east side with the tipple, is a slope of about 200 feet up which the cars are pulled by a tail rope. In this side also we find the coal often reaching 10 feet in thickness but in most instances we find about 3 inches of boan located 5 feet from the bottom, which, indeed, in some cases, becomes a species of hard coal and is shipped in its entirety. In most cases the tough sulphur band of about an inch thickness with several inches of coal above it is left for a top. On the main entry several large falls were encountered, and I called their attention to watching the top particularly at these points, and a section at about 300 feet from the drift mouth, where are several mud seams, made the top unusually treacherous. Sometime prior to my visit one of their long cross entries had holed into the workings of the Caswell Creek Company's, where much water had accumulated. I am advised that this gave them a little trouble at first, but no bad effects are now observable. I am pleased to report most satisfactory drainage and ventilation throughout the workings and the effect of careful attention are to be noticed in the pillar work and in the regularity and neatness both of rooms and entries.

Superintendent, Jno. Cooper; Mine Boss, M. P. Montgomery.

COALDALE COAL AND COKE COMPANY.—(P. O. Coopers.)

This operation is located at the west end of the tunnel, adjoining the Mill Creek Coal and Coke Co. on one side and the Elkhorn Coal and Coke Co. on the west.

Among the larger mines of this field this company takes the most prominent part. Here we find the Pocahontas seam reaching its greatest thickness with a perfect top, being from 10 to 10½ feet of coal, having sulphur top throughout, and in the cases where rooms have been worked and left standing for several years we find the track clear of falls and in the majority of cases the rooms are in such a condition that robbing may be proceeded with immediately without other expense. The system of endless rope haulage casually touched on in my former report has proved a great success. The rope running at the rate of about 4 miles per hour and working similar to the cable system in the large cities, will successfully land as much coal as the company can possibly handle. The system of crossovers on the main entry on which the rope runs to the gathering point for mules on the cross entries, are carefully kept clean and free from foreign substances and the cutting and raveling of the rope, which at first was feared and experienced, seems now to be under better control. The entry paralleling the tunnel on the left hand side of the workings is finished, and it is no doubt a great relief to the company to find that by careful engineering and mining they have avoided causing any settling or injury to the lining of the tunnel, and when they have begun to rob in this territory they have no fear of the after bad effects. One great drawback to this company in operating its lease is that much of the work must be done on the dip, and in order to secure effectual drainage now and in future they have gone to the expense of about 3,000 dollars in digging the ditch several hundred feet long and ranging from five to thirty-five feet in depth. The outlet of this ditch being one of the lowest points in the whole lease is expected to amply drain the entire territory when robbing. The ventilation throughout the mine being effected by a 20 foot fan is perfectly satisfactory.

In some of the dips or swags of this mine the coal attains a thickness of 11 feet 2 inches, having about 3 inches of boan five feet from the bottom, which is, I think, the greatest heighth of coal encountered in the Pocahontas field.

Superintendent: Thos. H. Cooper; Mine Boss: T. E. Williams.

ELKHORN COAL AND COKE COMPANY.—(P. O. Maybeury.)

This company operates a lease adjoining that of the Shamokin and Coaldale Companies, which has always been carefully worked, and on consulting the reports of the former inspectors my own and the opinion of the men employed at and about the mine I am gratified to find that such care and attention have always been given to this mine that satisfactory reports are justified, both as to its ventilation, drainage and general condition. The coal is 8 feet 4 inches, there being a slight impurity 2 feet from the bottom, while usually three inches of boan occurs about 3 feet from the top.

The sulphur band, with its one foot of coal above, is left up for top. It may be noted in connection with this mine, that they are now using a 12 foot fan, which, though running at its full safe capacity, gives satisfactory results, and is the same fan that has been used from the beginning of the works to the present time. Prior to which, the same was used in a colliery of this company in the Pennsylvania field. It may be noted that this and the Shamokin Company are among the few who set props for the men. They were unfortunate some time ago to have their drum house and some of the timbers of the drift mouth destroyed by fire. These have now been rebuilt with the addition of a complete house for the storage of the locomotive.

They have now in contemplation the erection of a new tipple. Direct connection is made between the mine and the drum house; thence the 400 foot incline connects the same with the tipple.

Superintendent, W. H. Barlow; Mine Boss, J. A. Cardwill.

THE NORFOLK COAL & COKE CO.—(P. O., Maybeury.)

This company is operating a lease immediately west of and adjoining the Caswell Creek Company, and has justly the reputation of being one of the safest and best conditioned mines in the Elkhorn field. In all my visits I have found the drainage good, the ventilation perfectly satisfactory; the falls and the robbings clean; the setting of the posts carefully looked after and such actions taken by the management, as have always insured the good condition of the mine and a favorable report from visitors and your mine inspector.

There have been no accidents of note during the past year. The coal at this point is 8 feet 9 inches thick, with three inches of boan 2 feet from the bottom; also a slight trace of boan 5 feet from the bottom, while the top, consisting of the usual sulphur band with one foot of coal above, is at this place usually taken down. I will refer you to my former report where I have noted that on the 8th left hand cross entry, 10 feet of coal was encountered in a local swag, where two sets of tracks are used, one on the original bottom and another 10 feet above the same, affording almost a viaduct for the haulage of coal.

Superintendent, Stuart M. Buck; Mine Boss, J. W. Devinney.

ANGLE MINE.—Of the same company.

This mine is located about ¾ of a mile from the old mine, above described, and is operated and controlled by the same company. The ventilation is usually quite good, although on one of my former visits I was forced to call the manager's attention to the fact that sufficient care had not been bestowed on the firing of the furnace that day, and, in reply to the same, I was informed that this oversight was occasioned by a temporary absence of the mine foreman. Since my last report they have driven a new drift to the crop; have located a fan and, no doubt, by this time the same is in successful operation. The drainage in these workings is also satisfactory.

Allow me to diverge from the general order of reporting and call attention to the unusually neat and substantial new tipple the company have erected; also to the expense the company have assumed in grading the main entry from the drift mouth to a point about 500 feet within. For the loaded trips coming out the top has been shot for a considerable distance, affording a grade in favor of the load of about 18 in. to 100 feet, and a similar working grade for the returning empties. The neatness and accuracy of this work, as well as the care that has been bestowed upon the timbering of the drift mouth, attracted my immediate attention, and I trust I may be pardoned for the digression.

The coal is eight feet 4 inches thick, with 4 inches of boan 4½ feet from the bottom. The top being about the same as in the old mine, but I notice that, especially near the crop, where mud seams have been encountered, the top is, in some cases, far from good.

Superintendent: Stuart M. Buck; Mine Boss: W. F. Whitt.

SHAMOKIN COAL AND COKE CO.—(P. O. Maybeury.)

This operation is located at Maybeury station, immediately at the forks of Elkhorn Creek.

Little can be said in detriment to the workings of this company. The little complaint entered against the same in my former report was immediately rectified after my visit, and on my trip just prior to this report I was pleased to find that they had taken down some dangerous top in close proximity to one of the main partings. The coal is 8 feet thick, with three inches of boan from 18 inches to 2 feet from the bottom. This boan often becomes a hard texture of coal and it is shipped in its entirety. In most cases, however, this boan is carefully picked from the coal before shipment. The sulphur band with its usual foot of coal above it, is also left up at this mine. As previously noted, the smoke occasioned by the engine entering the mine on the main intake of the air, is carefully taken off through a regulator. We note that no serious accident has ever occurred at this colliery, and I am told that the percentage of coal obtained by this company in the robbing often reaches from 87 to 89 per cent., which is an unusually good showing. This is most probably due to the good top and to the careful handling of the work at the outset. An incline of about six hundred feet connects the drift mouth with the tipple. The ventilation, by means of a fan is perfectly satisfactory, as is also the drainage.

Superintendent: Jno. Hunter; Mine Boss: Jno. Carmell.

LICK BRANCH COAL AND COKE CO.—(P. O. Maybeury.)

This company operates a lease located on the right hand side of Elkhorn Creek between the Crozier and Shamokin Companies, and is connected with its tipple by a tramway about 1,800 feet long. The ventilation by means of a twenty foot fan is excellent, and the drainage is also satisfactory with the exception of one place in the main entry, where an accumulation of water was noticed on one of my former visits, but which in no way interferes with the comfort of the employees.

Similar to many other companies in this field, an experienced man is constantly employed looking after and directing the working in the robbings and the drawing of stumps. The first and second set of left hand cross entries have been entirely worked out on the railroad side, and not only are the rooms being drawn but also the chain pillar. There is 8 feet 4 inches of coal with 4 inches of boan, located 4 feet 6 inches from the bottom. The top coal with its ½ inch of sulphur band, is left to support the top. Very few accidents occur in this colliery, owing, no doubt, to the excellent top and the careful attention of the mine foreman

Superintendent, E. J. Hutchinson; Mine Boss, Wm. Moore.

TURKEY GAP COAL & COKE CO.—(P. O., Ennis.)

This company is operating a lease situated on the left hand side of Elkhorn Creek, extending over to and adjoining the Greenbrier Coal and Coke Company, and is two miles above Elkhorn station, near which point it adjoins the Houston Coal and Coke Company. A 16 ft. fan affords excellent ventilation and I can do no better than to repeat that in each and every one of my visits to this colliery, the ventilation, drainage and all its appurtenances have been in a first class condition while the Sulphur top, being unusually tough at this mine, causes them very little annoyance, enabling them to keep it clean and at the same time, is safe mining. The locomotive running over an 800 ft. tramway connects the tipple with the drift mouth. This locomotive, though entering the mine for quite a distance, both on the main and cross entry, occasions no annoyance by smoke to the men, as this inconvenience is carefully looked after by the management. It may be here noted that the main entry has lately been driven entirely through the mountain, cropping on the waters of the right hand fork of north fork, about half a mile below the tipple of the Greenbrier Coal & Coke Co. This affords the Company another intake for air and gives them access to a large territory of timber heretofore unavailable. The coal is 8 feet thick with 3½ to 4 inches of boan, four feet from the bottom. A light, though tough sulphur band, with one foot of coal above it is left up for the top. In many instances the boan, above referred to runs into coal and is then shipped in its entirety. From the map of the Company, I note that quite a territory has been worked out, and the rooms are now standing, and from the steps the Company are now taking I should presume that they propose to rob extensively.

Superintendent, W. H. McQuail; Mine Boss, Jas Hopkins.

CROZIER COAL & COKE COMPANY—(P. O., Elkhorn.)

Located near Elkhorn Station, this Company operates a very extensive lease on the right hand side of the creek, immediately below the Lick Branch Colliery. Their mines consist of two sections, known as No. 1 and No. 2. It is at this place that we find electric machines in haulage use. The Jeffrey Manufacturing Company have successfully put in a large electric plant which at this place, has every opportunity for a successful trial, the coal being eight feet six inches thick, with 3½ inch parting, about 4½ feet from the bottom; moreover, the sulphur band, with its 10 inches of coal above, is here left up and forms an excellent top, indeed in many parts of the mine they are forced to set only one row of posts 15 feet apart and this work can be left standing with safety for three or four years, with no falls of top nor injury to mine.

The ventilation, by means of a twenty foot fan which replaced the sixteen foot one formerly in use, is excellent, as is also the drainage. It has been the intention of the company to use the sixteen foot fan at Mine No. 2, but as the present fan gives satisfactory results at both mines such a change is not deemed necessary at present. In Mine No. 2 mules are used for the main hauling. In Mine No. 1 the locomotive has been dispensed with, and an electric motor now hauls the coal over the one-half mile tramway connecting the mine with the tipple; it also enters the mine up the main entry and several cross entries, and gives perfect satisfaction. In my former report I made note of the syphon and pump which the company expected to employ for carrying the water from the seventh cross entry. On my last visit I found nothing whatsoever in the entire workings to complain of, and I was much pleased to see what an advantageous effect the use of electricity had on the ventilation of the mine. During the late labor trouble, incident upon the reduction of the price of the coal, this company being one of the railroad mines and wishing to run throughout the difficulty, found their electric plant of inestimable value in their emergency. No reasonable expense or trouble is spared by this company in keeping their workings in good repair. The rooms are carefully posted, their entries wide and clean and all water carefully kept in check.

I was surprised also to note that in several cases there were quite a number of rooms simply turned off of new entries, with centers and the turn laid, so that in case the output of the mine should of necessity be increased, the same could be done at a moment's notice.

Connected with this colliery is also a very elaborate tool and repair shop, where are made all the switches and appliances necessary for general mine work, and where formerly considerable of the general repairing in the neighborhood was done.

Superintendent: F D. Morgan; Mine Boss: of No. 1, W. H. Devinney; of No. 2: Frank Enfield.

HOUSTON COAL AND COKE COMPANY.—(P. O. Elkhorn.)

This company, operating a lease at Elkhorn station, adjoining the Turkey Gap and Powhatan Company, is another operation that has put in improved machinery for the handling of coal. On my last visit to their colliery they had their electric plant in place, but had never run the same. The tipple is connected with the drift mouth by a tramway 2,000 feet long, from which point the locomotive enters the mine both up a cross and main entry. The smoke occasioned thereby being carefully conducted to the main return airway. During the poor run of last spring this company went to a great deal of expense in preparing their entries, and more particularly their main entry for an electric plant. The latter they layed with extra heavy iron, bracing the same with cross ties extending the entire width of the entry; also placing in needle switches and full ballasting the roadway. This makes one of the finest tracks I have noticed in the whole field. The ventilation by means of a 16 foot fan is quite satisfactory. The only little suggestion I made to the company on my last visit, and indeed to several other companies in the same vicinity, was in regard to sprinkling some of their old entries, on which considerable dust had accumulated. I therefore sent a circular letter to six of the companies where I noticed this accumulation of dust, lest by reason of the rapid workings of their fans the entering of the locomotive in the mines and the rapid hauling, another catastrophe, similar to that which occurred at Pocahontas some time past might happen in our territory. I requested that they haul such waters as they had in their wet rooms over said entry once a week, as I deemed this a sufficient precaution. It seems that a great portion of the Houston Company's workings had the safe top of the Pocohontas field, but I have noticed that in some parts, most particularly in the workings of the old mine, the top is unusually treacherous and seems split up by numerous mud seams. The drainage of the main mine is satisfactory, while that in the old mine, now worked by contract from the Company, is vastly improved.

In passing, I may note that the coal in the old mine will be entirely winned in the near future, as they are now working about 350 feet from the drift mouth. The system of splitting the pillar which had to be resorted to in some parts of the mine is still carried on, with comparatively few mishaps. The coal is 7 feet 10 inches, with a 4 inch parting four feet from the bottom. The one inch of sulphur band with its foot above is left up at the top. This company have also fitted up quite an elaborate tool and repair shop.

Superintendent: E. Q. Houston; Bank Bosses: Lewis and Farrin.

UPLAND COAL AND COKE COMPANY.—(P. O. Elkhorn.)

The above operation is located near Elkhorn station, and the Crozier and Lynchburg leases. The ventilation is effected by means of a 20 foot fan with very satisfactory results. On one of my first visits to this quarter I found that they had unfortunately broken the top in some of the old workings, and part of their main entry and one of the cross entries was flooded. This state of things existed but a short while, as they took immediate steps to rid themselves of the annoyance. Very little work is now being done in the old mine and the company have opened up a new drift just across the Upland branch. The connection between the tipple and the old mine is a 600 foot tramway, while that to the new drift probably exceeds 2,000 feet. The fan above referred to now works exclusively in the old mine, a furnace being employed at the new drift for ventilation. A comparatively small extent of territory is being now opened up, and the ventilation is satisfactory. Just a short while prior to this report this company have had also put in electric cutting machines, manufactured by the Jeffrey Company. At this colliery the same favorable circumstances for electric mining exists, since there is 7 feet 10 inches of coal, with a parting of boan 3 inches located 4½ feet from the bottom, while the usual sulphur streak with its top coal above is left up for top. This sulphur top in the old mine renders the workings quite safe, while I have noticed that in the new drift, most especially in the crop rooms, this sulphur will break and leave a most treacherous top exposed. Several dip rooms on this account had to be practically abandoned. It may be noted in this connection that the mine is lighted by incandescent lights. The locomotive enters mine No. 1 for quite a distance, but will not be used in No. 2 until a system of ventilation more sufficient is in vogue.

As concerns the out door plant of this company, they have of late put in successful operation a complete outfit of conveyers, crushers, etc., for the handling of coal and coke.

Superintendent: Rolfe Gerhardt; Mine Boss: J. K. Flanner.

POWHATAN COAL AND COKE COMPANY.—(P. O. Powhatan.)

The above company operate a lease lying on the left hand side of Elkhorn Creek adjoining the Houston Company on the east and Elk ridge on the west. The workings consist practically of two mines. The older of the two, No. 1, consists now mostly of pillar work and indeed very little coal is being hauled from the same, as on my last visit, only about 10 men were employed therein. Owing to the small amount of work done in this section their 16 foot fan is seldom run.

Mine No. 2, or that portion lying immediately adjacent to the Houston Company, is now furnishing the bulk of the coal for shipment. The general ventilation of this mine is quite good considering the company are now forced to drive long and narrow work to connect this new drift with the old mine In this particular quarter of the working the air is, of course, tight, but in such cases the end fully justifies the means. There is also a third or smaller drift being driven to connect with No. 2, and it is the hopes of the company that both connections will be made about the same time. I regret to be forced to call attention to the poor drainage I found in the new works, and even though this part of the colliery is mined on the dip it seemed to me that a little more water was allowed to accumulate than was absolutely necessary. I fully appreciate that the strike in this district caused considerable water to back up in the old workings, and, in this connection, I may say that a number of little trivial details detrimental to the condition of the mine must be passed over, since we recollect how long the workings of the mine were idle. As noted before, this mine is often spoken of as usually one of the best conditioned in the Pocahontas field, the coal being 8 feet thick, with a 3 inch parting 4 feet from the bottom, with the usual ½ inch sulphur band, which, except in the cases of a few crop entries and rooms, is left up and affords excellent top. A tramway of about 1,500 feet in length connects the incline with the new mine. The company have lately put in a most elaborate plant including a revolving screen, enabling them to ship all grades of coal and coke This plant was erected under the direct supervision of Messrs. J. J. and L. E. Tierney; one superintendent of this company, the other chief engineer of the Crozier Land Co.

Superintendent, L. E. Tierney; Bank Boss, Jas. Hetterman.

LYNCHBURG COAL AND COKE COMPANY—(P. O., Kyle.)

The lease of this company is located on the right hand side of Elkhorn Creek, adjoining that of the Upland and Pulaski companies. It is in the workings of this company that we first find the sulphur top of the Pocahontas field too brittle to be left as a safe top, since part of this mine discloses the first class top of Powhatan and Upland companies, while that on the right of the main entry, or in other words, towards the Pulaski lease, is very treacherous and annoying. This band or section of bad top is very clearly marked, extending along the southside of the North Fork and intersecting the Elkhorn mines at about the middle of the Lynchburg workings. From this point up Elkhorn we have first class safe top, as the scarcity of casualties will indicate, while below we have no colliery in which the top is not treacherous and expensive, The Lynchburg colliery is ventilated by a sixteen feet fan with good results, although on my last two visits, I was forced to call their attention to a need of a door on the last cross entry where they had been driving long rooms for crop. On account of being idle, considerable water had accumulated in the main entry, and on my last visit, I found that they were shooting top and grading this entry preparatory to working the same and allowing the locomotive to pass over it. A tramway of about nine hundred feet connects the drift mouth with the incline. This company has also erected a very complete plant for the handling and shipment of coal, consisting of the latest arrangement of crusher, conveyers, etc.

The coal maintains an average thickness of six feet ten inches, having a 2½ inch parting, 4½ feet from the bottom, with a streak of sulphur about ten inches from the top, which formerly had to be taken down but now as they approach the Upland lease this sulphur band affords them a safe and satisfactory top.

Superintendent, L. E. Tierney; Bank Boss, William Hetterman.

ELK RIDGE COAL AND COKE CO.—(P. O. Kyle)

This Company operates the lease lying at the junction of the two forks of Elkhorn, immediately below Powhatan, and has the reputation of being one of the best laid out mines in the Pocahontas field. On my former visits they were using a furnace, on my last two, a sixteen foot fan had been erected and the ventilation was very good indeed. The coal shows six foot ten inches, with but an inch and a half of boan, four feet from the bottom, and a small streak of sulphur eight inches from the top. This light band often disappears entirely. The top almost throughout the entire workings is quite good, with the exception of a few rooms off the first cross left entry and at a point on the main entry where they passed under light cover.

The general condition of the mine is excellent, and even a casual observer will note that all possible means are resorted to to keep the mine in first class shape. All entries are driven true to center, the robbing carefully watched and the falls clean. A tramway of two hundred feet connects the tipple with the drift mouth. I am advised by the management that a locomotive will be used for the handling of the coal as soon as the extent of territory opened up will justify it.

It seems that but two serious accidents have occurred in the past year in this colliery, and these have been in the robbing where the worst top existed.

Superintendent, H. P. Wright; Mine Boss, C. A. Devinney.

ALGOMA COAL AND COKE CO.—(P. O. Algoma.)

This Company operates a lease lying on the north fork of Elkhorn, immediately back of the Keystone property, and consists practically of two mines. Mine No. 1 of the old bank has very little narrow work progressing now. The bulk of the coal coming from pillars. The rooms off of the main air course are practically worked out.

The ventilation effected by a fan is quite satisfactory, but owing to some of the work being on the dip the drainage is not such as I would prefer to see. It is in this section of the mine that the worst casualty occuring in the Pocahontas field, happened, namely, the falling of several tons of loose slate on four slate men, who were attempting to clean up an old fall and taking down such top slate as they deemed dangerous. Practically without warning the heavy mass fell killing two and seriously maiming a third one. By good fortune one man escaped without injury. In this connection I may note that the company incurs a daily expense of $25.00 in handling, taking down and gobbing the slate.

The coal is six feet, four inches in thickness, with two inches of boan, three feet and a half from the bottom, and the top with the probable exception of Keystone and Eureka is worst in the field. There is no incline, but a tramway 1,500 feet connects this mine with the tipple.

Mine No. 2 or the new drift opens in close proximity to the tipple and consists entirely of an air course, an entry and the rooms turned off of same. The coal is about the same height and formation as that in the old drift, while the two tops are identical. At the lower end of this lease the company have constructed a coaling station for the Norfolk & Western engines.

The unfortunate condition of the top at this mine and of those on the lower end of Elkhorn is a constant drawback to the proper ventilation and drainage of the mines, and it is only by great care and expense that the companies can so keep up their mine as to compare favorably in the above respects to the collieries of the upper Elkhorn field.

This company has also a coal crusher and improved conveyers for handling slack, and it lately erected quite a handsome store building.

Superintendent, W. H. Thomas; Bank Boss, W. J. Pritchard.

GILLIAM COAL & COKE CO.—(P. O., Gilliam.)

Immediately adjoining the Algoma lease we have the workings of the Gilliam company. On perusing my former report, I note where I have called their attention to several defects in the workings of their mine; since the printing of the same, I have had occasion to visit this company several times and I am happy to state that the general condition of the mine is vastly improved. The treacherous slate on the entries and the gob piled in the air ways have been removed. A new fan has been lately erected, the roadways cleaned, and no efforts have been spared to outlive the bad opinions of employees regarding the safety of the mine. Heretofore I have had repeated notices of the occurrence of accidents, but of late I have not been called to this place on any account whatsoever.

The company deferred making these improvements for a long while but when they decided to do so went at it with a will and I can now safely say that this operation will compare very favorably with its neighbors. I am more than pleased to be able to report as above, since this mine was known both to me and to others to be unsafe and in very poor condition. A 2200 foot tramway with no incline connects the mine with the tipple. The coal is 5 feet, 7 inches, with three inches of boan, three feet ten inches from the bottom, having also a light sulphur streak one foot from the top. In one of their longer entries extending towards Rolfe, they have encountered the tough, blue slate roof of the latter place and I trust that they have at last freed themselves from their old enemy —the top of Keystone, Empire and Algoma Company.

Superintendent, James Johnstone; Mine Boss, John Main.

ROLFE COAL AND COKE CO.—(P. O. Worth.)

This Company is operating about one-half mile above the last named colliery; being connected with the railroad by an unusually long incline. On my visits to this colliery I have not found the ventilation such as I would prefer; since for different slight causes; such as failing to clean out the furnace, banking the fire, etc., they have not kept the ventilation up to the required standard. I have called the attention of the management to the above named suggestion, and it will simply require the careful attention of the mine boss to rectify these little annoyances. Their furnace is a large and good one and although they work their rooms unusually long, practically using their break throughs as haulways, I am satisfied that with proper attention their furnace would give them ample ventilation.

On my last visit to the colliery it was idle and I did inspect it. The drainage in the main body of the mine is perfectly satisfactory, although there is a little work on the dip and crop side of the lease where the water will accumulate. The coal is 5 feet thick, with two inches of boan three feet and a half from the bottom: Above this coal are 5 inches of draw slate, which, usually coming down, leaves a good, black slate top.

Superintendent, Geo. H. Paddock; Mine Boss, Jack Vipperman.

ARLINGTON COAL AND COKE CO.—(P. O. McDowell.)

This mine is located on the North Fork, a short distance above Roanoke. It seems that this colliery is under the same direct management as the Gilliam, heretofore mentioned. And on looking over my former records I notice that I enter the same complaints against this Company as regards proper ventilation as I did in the case of Gilliam. These were also slow in making the needed improvements, but I am happy now to make a favorable report. They have lately erected a first class fan, which gives most satisfactory results, have cleaned out the entries and vastly improved the drainage. The coal is five feet, five inches in thickness, with two inches of boan, three feet from the bottom. Also with a streak of sulphur, quite thin, about 18 inches from the top. The main top consists of a strong, blue slate, under which is about five or six inches of draw slate, with a stratum of fire clay about half inch next the coal.

An incline, but no tramway, connects the drift mouth with the tipple. I may note that a new store is under erection.

Superintendent, James Johnstone; Mine Boss, Robt. Belshaw.

ROANOKE COAL AND COKE COMPANY—(P. O., Jones.)

This lease located on the North Fork, adjoins the Rolfe and Arlington companies. This company mines and operates under the most favorable circumstances. Their top is one of the best and safest in the field; their coal quite hard and lumping well and the mine comparatively free from serious rolls.

The ventilation, although effected by means of the furnace, has at all times been quite satisfactory, but I would call the management's attention that the currents of air, although passing entirely through the mine are rather weak on the return, owing to the extent of territory through which they travel. And if the development of the lease progresses as rapidly in the future as in the past, I will be forced to request them to erect a fan at the present site. The coal is five feet three inches in thickness, with two inches bone, three and a-half feet from the bottom, with no trace of the sulphur band. Above this there are six inches of draw slate, which coming down with the coal, leaves a safe and good blue slate top. An incline, but no tramway connects the mine with the tipple. The manager informs me that in the near future they will open up a new drift, put in another incline and rob the rooms now worked from the new drift.

Superintendent, W. S. Cowell; Bank Boss, B. F. Tipton.

INDIAN RIDGE COAL COMPANY—(P. O., Worth.)

This new operation is located three-quarters of a mile from the railroad on the North Fork, being connected there with by a three-quarter of a mile spur track. This company have made a number of improvements in the workings of their mine. In the rooms on the old first right entry, they have begun taking the pillars, since the rooms and entry are worked out to that east line. Just to the left of the present main entry and about six hundred feet around the crop from the present drift, they are making a new opening and will speedily place in a fan.

The general condition of the mine is satisfactory, both as regards drainage and ventilation, with a single exception of an accumulation of water on the main entry, which the new opening above referred to will carry off. The coal is five feet two inches, with an inch and a-half of boan, three feet from the bottom. There is no sulphur streak. The top consists of eight inches of draw slate, which, usually coming down, discloses a safe, black slate.

Superintendent, C. Botsford; Bank Boss, J. C. Cole.

McDOWELL COAL AND COKE COMPANY—(P. O., McDowell.)

This company operates the lease at the forks of North Fork, adjoining Greenbrier and Ashland. There is no tramway, but a short incline connects the tipple with the drift mouth, and the momentum of the loaded cars descending the plane pulls the trip from the parting in the mine by rope, to which parting the gathering is done with mules. This is one of the few instances of rope haulage in this field, as it seems by reason of the high coal and the regular and steady grades in the mines, the companies mostly favor locomotives and electric motors. The ventilation is effected by means of a sixteen foot fan which does good work, but I was forced to call the company's attention to the unusually long rooms that they are now driving. To ventilate these rooms they simply cut break-throughs at from about 125 to 150 feet, and depend entirely upon the pressure of the air to freely circulate the currents. This it will often do under the most favorable circumstances, but we usually find the smoke hanging. Coal is five feet five inches, with a two inch parting two feet from the bottom.

This company mines and ships the entire seam, which is accepted by the Pocahontas Coal Company. The top is fairly good and the company has had but little trouble from accidents. The drainage is satisfactory, and with the exception of the long rooms above referred to, I have but little cause to complain.

Superintendent, T. T. Lineweaver; Mine Boss, James Cooper.

ASHLAND COAL AND COKE COMPANY—(P. O., McDowell.)

This lease is the last on the North Fork and a comparatively new mine. On my last report the company had scarcely begun shipping coal, and I could tell but little of their operation or the care with which they handle the mine. On my last visit, I found that they had quite a little territory developed.

A furnace is used for ventilation but unfortunately for them they had two intakes for the air, and I noticed that the currents baffled. Since the furnace was small and not capable of overcoming the variations caused by atmospheric pressure, I pointed this defect out to the bank boss and since my last visit they have gotten a fan and I presume the same is now under erection. The coal is five feet, ten inches, with 2½ inches of boan, one foot from the top. Above the coal we have five inches of draw slate, then a hard, safe top. Incline, but no tramway connects the drift mouth with the tipple.

Superintendent, T. B. Dennen; Bank Boss, W. P. Farne.

GREENBRIER COAL AND COKE COMPANY—(P. O., McDowell.)

This lease is located at the head of the north fork and adjoins the angle lease of the Norfolk Coal and Coke Company and it will also be remembered in a former portion of this report, I mentioned the main entry of the Turkey Gap Company, having been driven through the mountain to the Greenbrier side. The management are making every effort to render this a model mine in every respect. The tipple and ovens being of the latest pattern, the ventilation being effected by a reversible Thayer fan, which seems to give great satisfaction.

In my last report I mentioned the two mines as not being con nected and the ventilation was only fair. On my last trip I found that the connection had been made between the two drifts, enabling the fan to ventilate both portions of the mine. That portion of the lease lying near the Turkey Gap Company seems to be the first that the company intends developing where the coal shows 6 feet 2 inches, with from 1 to 2 inches of boan, 18 inches from the top. Above this we often find from 3 to 5 inches of draw slate, while the top is usually a tough, blue slate. In the first left hand cross entry, they have just begun robbing and I presume it is the intention of the company to draw all the pillars in this part of the mine that will not endanger the working by surface cracks.

The main entry of the mine is not now being used, as they are shooting the top, leveling off the entry and laying well ballasted tract with 32 pound iron.

At McDowell Station the Company has also erected one of the handsomest stores in this territory.

Superintendent, Hugh Johnson; Mine Boss, W. F. Anderson.

KEYSTONE COAL AND COKE CO.— (P. O.,Keystone.)

This Company is in operation at Keystone. one mile above Echman, adjoining the Empire and Algoma leases, and on the left hand side of Elkhorn creek. A locomotive is used for the outside haulage of 1700 feet, and is now running a short distance into the mine

This is one of the only companies in the Pocahontas field using a furnace, and now more especially since the locomotive is run into the mine, I trust that the Company will see it to their advantage to purchase a fan. However, at my several visits, although I cannot make very flattering reports of the ventilation, it is not such that I could censure the Company,

All of the rooms on the first right hand cross entry are worked out, and the room pillars and chain pillars of the entry are now being taken. Unfortunately for the Company, the top is unusually treacherous, continually falling and not only interfering with the general condition of the mine and entailing expense upon the Company, but in one or two cases has occasioned serious accidents. I have been all over the workings, requested certain places to be taken down and from what I see, I am inclined to believe that the mine foreman uses due diligence in looking after the safety of his men. This is no doubt the worst top in the Elkhorn field, but the casualties have thus far fallen considerably below that of its better favored neighbors. Strange to say the main entry on the Guyandotte side of the lease shows an elevation of 150 feet above the drift mouth on the Elkhorn side, but as yet they have been continually mining on the dip and the water has steadily followed it, forcing them to keep a pump going daily. This water does not interfere with the men, except in the entry. As soon as the main entry begins to raise a pump will be put in and the water either syphoned or pumped off.

The coal attains a thickness of six feet, with an inch and a half of boan, about three feet from the bottom. The top consists of the usual one-half inch of sulphur, which in these lower Elkhorn mines is very brittle. Above which is 14 inches of gray draw slate and which almost invariably falls after the coal is mined and shot from under it. On examination, it seems that upon exposure to the air, this draw slate disintegrates with usual rapidity, and falling, gives the Company much annoyance and expense.

Superintendent, J. K. F. Steele; Mine Boss, John Murray.

PULASKI IRON CO.—P. O., (Echman.)

This Company operates the lease at Echman Station, adjoining the Lynchburg Coal and Coke Co. Since my last report this mine has undergone numerous changes. The Company having been at great expense to install a complete electric plant, including motors for haulage, cutters, drillers and incandescent lights for the illumination of the entire entries upon which the motor runs. The new fan of which I spoke in my last report has been satisfactorily placed. The ventilation of the mine in general being good, as is also the drainage. In the main and several cross entries the draw slate has been taken down, the entries cleaned, the track laid with heavy iron and ballasted, and we may say the entire mine lately refitted and furnished with the most improved machinery. Owing to the treacherous top, the Company is still forced to cross-timber the rooms and until they rob on an extensive scale, one cannot tell what effect these collars will have on the roof. The coal is 7 feet, with a three inch boan, three and one-half feet from the bottom, while the top consists of an inch of sulphur band, together with the 18 inches of treacherous draw slate, which the Company endeavor to hold up.

When first undermined and shot, the top throughout the mine holds well till the air strikes it, thereby causing few fatal accidents. The electric haulage and mining work even more successfully at this plant than at any other which I have examined. One thing I may be permitted to say is, that when the machine makes its cut across the face of the room, there is invariably about three inches of coal left on the bottom, which seems to be a bone of contention between the loaders and the mine foreman, since the former will often neglect to take this bottom up when loading this coal. This negligence interferes with the future working of the machine at the same point, since it raises it still higher above the true floor.

A short incline and no tramway of note connect the mine and tipple. The greater part of the output of the mines is here coked and shipped to Pulaski, Va.

Superintendent, S. F. Morris; Mine Boss, D. Alsop.

EUREKA COAL AND COKE COMPANY.—P. O. Echman.)

This mine is located on a spur track of about half a mile length, connecting with the main line at Echman.

Since my last report, the Company has placed in a fan which works more satisfactorily, but I am a little sorry to find that they, too, insist upon working long rooms with break throughs for haulways. This method is practically single entry, since no fan nor furnace will propel the air currents to the face of a four or five hundred foot room.

On the first left cross entry there are quite a number of rooms which were stopped before they were entirely worked out on account of water and bad top. Some of these have never been started up again. The main straight entry still remains idle, and what we would understand by the first left serves as the main haulage.

The thickness of the coal is 7 feet, 4 inches, with 5 inches of bone, 4½ feet from the bottom. At this colliery also appears the usual sulphur band with its one foot of treacherous draw slate above it, interspersed with numerous kettle-bottoms, which require constant watching together with much timber and expense to avoid accidents.

A haulway of about 1500 feet connects the drift mouth with the tipple. This company has also begun the erection of a new store building between the present store and the main line of the railroad.

Superintendent, L. E. Tierney; Bank Boss, W. H. Devinney.

SHAWNEE COAL & COKE CO.—(P. O., Echman.)

This lease lies on the right hand side of Elkhorn Creek a short distance below Echman Station, adjoining the Eureka lease. Since the printing of the last report, this company has replaced its old furnace by a fan, with a vast improvement to the ventilation. The general conditions of the mine are satisfactory. The locomotive enters the mine on the main entry which is now partly the return for the air, and also passes a short distance up the cross entry. As before noted in connection with these workings, their drainage is very good.

Unfortunately their top is such as requires taking down and gobbing, which interferes materially with the good appearance of the mine. The coal is six feet, two inches thick, with an inch and a quarter of boan, three and a half feet from the bottom. The top consists of from an inch to an inch and a quarter sulphur band, then 18 inches of gray draw slate, also one inch of coal and above all of which is the tough, black slate. The sulphur band at this mine seems somewhat thicker and stronger than at the other mines of the lower Elkhorn, and will often stand for a hundred or more feet immediately after the entry is driven. However, that cannot be depended upon, as it disintegrates and invariably falls.

Superintendent, W. R. Graham; Mine Boss, Frank Harold.

EMPIRE COAL AND COKE COMPANY—(P. O., Landgraff.)

This company is operating about two miles above Vivian on the lower side of Elkhorn. On all of my visits from the very first, with the exception of the last, I have noted many improvements for the bettering of the mine and the general safety of the employees.

The old first and second right entries, which abounded in tight air when driving out for the fan and in which the top was always bad, are now worked out, and although in the remainder of the mine the top is still treacherous, I receive few notices of accidents.

On one of my visits to this colliery, I took pains to point out to the mine foreman, such places throughout the entire mine as I deemed dangerous.

For some time the company endeavored to hold up the top by mining on the sulphur band, but such system was not a success.

The company have placed in a first class fan, which ventilates the mine most satisfactorily. The drainage is also good. On the main entry for the greater part of its length the top has been shot to the solid slate, heavy iron laid and the track well ballasted.

The coal is six feet, one and one-half inches, with boan three inches, nine inches from the bottom. The top usually consists of a one inch sulphur band, one foot of grey draw slate, one and one-half inches of coal, three inches of draw slate, one-half inch of coal and then one foot of draw slate, making in all two and one-half feet of dangerous top, which necessitates considerable trouble and expenses, as it will surely disintegrate and fall, due to the presence of the streaks of coal.

A tramway of some length but no incline connects the drift mouth with the tipple.

Superintendent, W. D. Ord; Mine Boss, J. M. Shanks.

PEERLESS COAL AND COKE COMPANY—(P. O., Clausen.)

This operation is situated a short distance above Vivian and on the right hand side of the creek. On several of my first visits to the colliery, I was forced to call their attention to several little things, most noticeably, the lack of sufficient ventilation. On my last two visits, I was pleased to find things much changed for the better. A new fan had been put in, making the ventilation perfectly satisfactory as also the drainage. Owing to the absence of the bank boss through sickness, there were two leaky brattices, but they were mostly due to carelessness.

The coal is five feet nine and a-half inches, with two inches of boan three feet from the bottom.

The top consists of a light sulphur band above which come ten inches of draw slate and two and a-half inches of coal. When the above top is taken down, as is the case in the greater portion of the main entry, we find a tough, black slate and in some instances a sand stone top. It may be again noted that this is one of the dryest mines in the Elkhorn field. A tramway of about 1,200 feet connects the drift mouth with the tipple. The locomotive now runs into the mine quite a distance, but with no inconvenience to the men.

Superintendent, H. C. Zacharias; Bank Boss, James W. Williams.

BOTTOM CREEK COAL AND COKE COMPANY—(P. O., Vivian.)

This lease is located at Vivian Station, adjoining the tidewater, with characteristics of the top and coal very similar.

As noted in my former report, I visited this company during the strike on the Chesapeake & Ohio Railroad, when they were running daily and the little irregularities were doubtless more due to the rush of work than to the negligence on the part of the management.

I regret to say, however, that on my last trip not long since, I was again forced to call their attention to leaky brattices and warped doors. We notice the current produced by the fifteen foot fan to be amply sufficient to ventilate workings of even double extent as these in question, but several of the headings were not only very smoky at the time we entered the mine, but I am led to believe from the existing circumstances that this tightness of the air is a common occurrence. I was through the mine with the manager of the colliery and I think he fully well comprehended that there had been some little carelessness somewhere. Owing to the manner in which the land company require them to develop a lease it is somewhat more difficult to keep a first class mine, since instead of driving an entry and its parallel air course direct from the main entry or the main air course, they resort to a method of working, as they call it, the entry and half entry; that is, they turn the cross entry off the main entry and the air course off the cross entry itself. This necessitates two doors instead of one and unless great care is used, the trapper will leave both doors open for the driver. I merely mention this, partly as an explanation of the rather unsatisfactory ventilation of the mine and not meaning to dictate how any lease should be developed.

The thickness of the coal is five feet, 8 inches, with three inches of boan three feet, 7 inches from the bottom. The top consists of one inch of sulphur band, one foot of grey draw slate, with an inch and a half of coal, which on exposure to the air invariably disintegrates and falls. This accumulation of slate interferes very materially with the ease and advantages of drainage and ventilation.

There have been six serious accidents during the last year, three of them fatal. The mine is connected with the tipple by a 1,100 foot haulway, but no incline.

Superintendent, Wm. Spencer, Mine Boss, Alfred Nixon.

THE TIDEWATER COAL AND COKE COMPANY—(P. O. Tidewater.)

Adjoining the Bottom Creek Company's lease, this colliery is the last in the Elkhorn field, 177 miles from Kenova, on the left hand side of Elkhorn Creek, near the point at which the Pocahontas or No. 3 seam passes below water level, and in this case a slope of about 250 feet in length is required to raise the coal to an elevation sufficiently great to screen and dump into the cars.

The ventilation in this mine is obtained by a first class 15 foot fan and the drainage, considering the low water level, is quite good.

On one of my visits, the air was a little tight in one of the upper cross entries, due partly to a fall of slate, partly to a needed break through; but on my last visit I was pleased to find the break throughs close to the face of the heading. The pillar work in the old first right being carefully watched, and little or no accumulation of water. The seam here is five feet nine inches thick, with three inches of boan, three feet and a half from the bottom. We have a little fear lest in working this seam below the water level, some gas may be encountered and I urged upon the Superintendent that he should make it a personal matter with him to see that the Bank Boss examine the heading each morning before allowing the men to work therein.

Superintendent, James Johnston; Bank Boss, Jno. A. Grantham.

CHARLESTON COAL AND COKE COMPANY—(P. O., Welch.)

This operation located in the lower end of McDowell county, is, I am advised, about defunct. As I understand, practically no work has been done in the last five or six months. The shaft was to be sunken to a depth of about 180 feet, with the intention of reaching the No. 3 or Pocahontas seam, which at this point is supposed to be 170 feet below water level. When work was stopped, only a portion of this distance had been driven.

Superintendent, T. L. Henritze; Mine Boss, ——

THACKER COAL AND COKE CO.—(P. O. Thacker.)

This Company is located at Thacker, in Logan county, now Mingo county, on the Ohio extension of the Norfolk and Western R. R.. 112 miles from Kenova, and is operating a seam of coal usually averaging 8 feet, only 5 feet of which is worked. The remainder consisting of a foot of soft fire clay and bottom coal, which seam is supposed to be one of the measures of the Great Kanawha river. In some cases the fire clay parting near the bottom of the coal becomes an impure variety of coal, burning to a white ash. This mine is connected to the main line by a spur track about three quarters of a mile long and with the tipple by an incline 1,020 feet long.

My first visit to this mine was during its infancy, and when last there, they had driven the main entry through the hill, erected quite a good furnace and both the drainage and ventilation were satisfactory. However, on one visit, I recall the air in two of the headings as quite tight, and I urged the manager to double-shift the entry both from the inside and out.

Connected with this mine is also a coaling station for the Norfolk and Western engines. The coal is of the nature of block, and seems to find a good sale for domestic purposes in the eastern markets.

Superintendent, J. A. Williams; Mine Boss, Thos. Lightfoot.

MARITINE COAL CO.—(P. O. Thacker.)

At the time of my last report this Company was not shipping, but they have now four drifts, worked, we might say, as distinct mines, each having its own furnace, its air course and entry, with rooms turned directly off of these. This system is adopted, as the coal lies near the top of the mountain and is but a thousand feet from crop to crop.

This is the same seam worked by the Thacker Company, being of the same texture, but a few inches lower. The drainage and ventilation have always been satisfactory.

The drift mouths are connected with the drum house by a tramway about 1,500 feet long, thence an incline, 1,350 feet, to the side-track.

Superintendent, Robert Mauchline; Bank Boss,

PEARL MINING COMPANY.—(P. O., Dingess.)

This Company, located near the Dingess tunnel, in Logan county, sixty miles above Kenova, are operators in the splint coal measures, with a seam having a thickness of five feet, which consists of 16 inches of clean coal, two inches of boan, two feet of coal, and two inches of boan, with the balance clean coal. Having good black slate top, with practically no draw slate. On my first visit to these works, I found them relying too much upon natural ventilation, while on my last trip they had a furnace and quite good ventilation. They are much annoyed by rolls and faults, sometimes shutting off almost the entire coal.

Water, also, is a great annoyance in the dip workings, but I think they use all possible means to carry off the same as rapidly as it makes.

There is a tramway of 500 feet, the Company having no incline. R. O. M., lump, nut and slack are shipped.

Superintendent, C. P. McCafferty; Bank Boss, David Swartz.

THE LYNN COAL AND COKE COMPANY.—(P. O., Sheppard.)

This Company, operating in Mingo county, below Thacker, have been shipping coal comparatively a short time. The seam mined is identical with the Thacker seam, having a thickness from three feet six to four feet six. They use a two inch lump screen and ¾-inch nut screen and pay the miner 55 cents per ton for each ton of lump passing over same.

Superintendent, R. J. Trumon; Mine Boss, Wm. Cook.

WELLS BRANCH COAL COMPANY—(P. O., Preston.)

Reference to this operation is hereby made to the mine Inspector's report of '94, since which time practically no work has been done, except a shipment of some cannel coal.

DUNLOW COAL COMPANY—(P. O., Dunlow.)

This operation, located 46 miles above Kenova was defunct shortly after the printing of the last report.

SPRING HILL COAL COMPANY—(P. O, Ferguson.)

Abandoned.

COALDALE MINING AND MANUFACTURING CO.—(P. O., Fleming.)

Abandoned.

CARVER COAL COMPANY—(P. O. Plymouth.)

Located at Plymouth, 20 miles west of Charleston, W. Va , on the Kanawha and Michigan R. R., and the Kanawha river. This operation works the Pittsburg, or Raymond City, seam, having at this point a thickness of 4 and one-half feet, being a species of the splint coal, used largely for domestic purposes, and mostly shipped by water. A spur track ¼ mile long connects the drift with the main line of the R. R., having no incline, and a river tipple.

Having noted in my former report the annoyance and expense this company were being put to to drive through a serious fault, I am now pleased to state that this drawback has been overcome and being now through the fault, they have sunk a shaft about 75 ft., at which point they have erected a furnace, which is a decided improvement upon the old mode of ventilation. The general condition of the mine, both as regards the drainage and ventilation is good, and the management are conscientious in taking such steps for the safety and comfort of men, as required by law. This operation is connected under the same management as the Mecca and Edgewater mines in the Kanawha Valley.

Superintendent, Jas. Carver; Mine Boss, W. H. Mease.

BANCROFT COAL COMPANY—(P. O. Bancroft.)

This operation, located 19 miles below Charleston, on the Kanawha and Michigan R. R., is working the Pittsburg seam, having a thickness of 4 and one-half feet, being shipped as a splint largely by rail for domestic purposes. This description of the company and its workings cannot be flattering, since on all of my visits, I found them negligent in the exercise of their duties as regards the condition of the mines, and when we consider that it falls often to the lot of the mine boss to act as trapper, water bailer, and driver simultaneously, we cannot expect any very flattering results in the good condition of the workings.

Thos. B. Bancroft, Superintendent; Mine Boss, Richard Entiwhistle.

THE MARMET, SMITH COAL AND MINING COMPANY.—(P. O., Raymond City.)

Opened at Raymond City, 16 miles below Charleston, in 1865. This company have been in active operation since 1878, having had the good fortune to cause the death of but one employee during the last five years. The daily capacity is 20,000 bushels of lump, and a new opening is being made on adjoining property, which will increase this capacity about 7,000 bushels daily. Although shipping so extensively by the Kanawha and Michigan Railroad and river this company are agitating the feasibility of a connection with the Chesapeake and Ohio Railroad either by the construction of a branch line, across country, or by transporting their products up the Kanawha river to a point near where the Chesapeake and Ohio Railroad leaves said river, and elevating them to the cars of the said railroad. Among other changes and enlargements of this company is the late purchase of the Queen City Coal Company's plant and property, in which former working they are now pushing entries, preparatory to develop same to much larger extent than formerly. The Pittsburg seam, having a thickness of 5 feet, and often attaining 6 feet, is here worked. They have a slight draw slate which, when the coal is shot, leaves a good safe top, except in cases where they have a clay fault, which runs at an angle to the strike of the coal, and cutting through it, causes the top to cut, giving the company much trouble and expense. The general condition of the mine is good, the ventilation being effected by the means of a large furnace—with satisfactory drainage. Among other improvements at this plant is a large river tipple and appliances for the washing and cleansing of the slack. The mines are connected with the railroad and river by a short line 3½ miles in length, with no incline.

Superintendent, Ed Schonebaum; Mine Boss, E. Hennings.

Kanawha Valley Mines.

M. T. DAVIS AND COMPANY—(P. O., Montgomery.)

This operation, located on Morris Creek, a short line of the Chesapeake and Ohio railroad two miles long, operates both the No. 2 or gas seam, and the No. 5 or block. The latter being the upper mine, is reached by an incline of considerable extent. The coal, a block of 6 feet thick, often obtaining thickness of 7 feet, with good top and drainage. The company have erected and are almost ready to begin mining this coal by electricity, two Jeffrey cutting machines being on the site at my last visit. The lower mine, called Eureka Colliery, is of greater extent, working the No. 2 gas seam of 4½ feet thickness, being equipped with a system of rope haulage, and ventilated by means of a fan, with fair results when properly looked after, which I regret was not the case on my last visit. The top, consisting of a blue slate, cuts badly and is very treacherous.

Superintendent, M. T. Davis; Mine Boss, Geo. Frazier.

CARVER BROS.—(P. O., Montgomery.)

Also located on the Morris Creek railroad, a short distance below the Eureka Colliery; this operation works two mines in the Gas seam, located across the Hollow from one another. landing the coal on the same tipple, where the seam has a thickness of coal is 4½ feet with a slight parting. The daily capacity of the two connected mines is 600 tons per diem, but owing to the dullness of the market and the scarcity of men, they can not furnish this amount. The ventilation by means of a Thayer fan is only fair, caused by the large extent of territory this fan is required to operate, and the lack of sufficient stoppages on the entries. The drainage is satisfactory.

Superintendent Jno. Carver, Mine Boss J. Taskin.

COAL VALLEY MINING COMPANY.—(P. O. Montgomery.)

The above company operating the Coal Valley or Gas seam, having a thickness of 50 inches, is located at the town of Montgomery, and consists almost entirely of robbings in which they are greatly annoyed by the water which seeps through the old workings of the Edgewater and Crescent mines. As is the case in nearly all the mines consisting of robbings, with no direct air ways, the ventilation is only fair.

Superintendent, J. W. Straughan; Mine Boss, W. Addamson.

W. R. JOHNSON—(P. O. Crescent.)

This operation located at Crescent a short distance above the town of Montgomery, works both the No. 2 or Gas and the No. 5 or Block coal seams, the former being from 55 to 60 inches, and the latter often attaining 7 feet of clean coal of unusual pureness. This coal is extensively used by the Chesapeake and Ohio R. R., in their passenger engines, and a coaling station is located in front of their coke yard. In regard to the upper seam, which is 685 feet in vertical elevation above the gas, or No. 2 we may note that the territory now being worked lies near the summits of the hills, and having but light cover, they are much annoyed by surface seams. having several rooms now drowned out, and will at once begin to take necessary steps for draining same for work. The crop being convenient for new drifts the ventilation is by natural means and is good. Unlike most of the coals of this territory which have an inclination of 3 ft. per 100 ft., this seam dips 15 ft. to 100 ft. at this point. The No. 2 seam worked below consists of more extensive workings, being now principally pillar workings, with treacherous top, requiring much timber. A system of endless ropes brings the coal to the drift mouth on the West side. The ventilation by means of a Crawford and McCremmon fan, which Mr. Bartlam has so arranged as to be reversible, gives good results, although, I am advised, that at times when the wind is blowing hard from the N. W., they are then annoyed by currents of impure air forced up from the old workings of the Coal Valley seam below. The drainage is satisfactory. The outside plant, equipped with crusher ovens and conveyor's is quite elaborate and the coke products are in great demand for furnace combustion.

Superintendent, T. A. Bartlam; Mine Bosses, Rich Howe, John Abbot.

CARVER BROS.—(P. O., Edgewater.)

This company located at Edgewater, two miles above the town of Montgomery, operates the three seams of coal, known as the Eagle or No. 1, being a coking coal of 4 feet thickness; the No. 2 or gas seam, being 4½ feet thick, and the Block or No. 5, being 6 feet thick and in demand as a domestic fuel. The No. 5 or block is mostly crop and surface work, being near the top of the hills and having light cover. The ventilation is good and natural, and the drainage by reason of the light top and surface seams is only fair. In the workings of the No. 2 or gas seam we have the connection of this mine with those of the same operation on the Morris Creek side and the ventilation of both mines by the one fan, which, though doing good work, is overtaxed by the territory, which it is called upon to air. The top both in the new and old workings is treacherous and requires constant watching. The general drainage is good. In the workings of the No. 1 or Eagle seam we can only give a fair report both as to the ventilation, by furnace and the drainage. All mines and their respective inclines connect with the same tipple, from which shipments are made both by rail and water.

Superintendent, Enoch Carver; Mine Boss, Jno. Carver.

WYANT COAL AND COKE COMPANY—(P. O., Eagle.)

Located at Eagle station, this company is operating both the No. 1 or Eagle and the No. 2 or gas seam. The former vein being at the old site has a thickness of 52 inches, with light parting of boan. By reason of the superior quality of coke produced from this seam, the entire output of the mine is used in the ovens and when placed on the market constantly commands a superior price. The territory developed by this mine is of great extent, having a main entry of about one mile. The top when few inches of draw slate is down is quite good and in some of the old robbings has stood for several years, without riding or falling. The gas or No. 2 on this end of this property has not yet been developed. At a point one-half mile above Eagle station this same company is operating the No. 2 or Diamond seam, called thus for the mine here, where the seam attains a thickness of five feet five inches, holding its own throughout most of the workings. The company have just completed a system of rope haulage which will greatly facilitate the work and add much to the increase and economic mining of the coal. In this connection it may be well to note that the Eagle mine is well equipped with ovens, coal and coke crushers. The last report noted that the company was expecting soon to hole out on the Armstrong side of their property and would have effected this had it not been that the work was much retarded by the wretched top met with in the entry, and the time necessarily lost in timber and rendering same safe. The ventilation by means of a furnace is only fair now and will be good when above opening is effected. Drainage good.

Superintendent, William Wyant; Mine Bosses, Eagle, Thos. Loyd; Diamond, Jno. Bostick.

ST. CLAIR COMPANY—(P. O., Eagle.)

The above company operates Nos. 1 and 2 seams at a point a quarter of a mile above Eagle, having one tipple both for railroad and river shipments. No. 1 seam being mostly used for the manufacture of coke, producing some of superior quality. The coal from No. 1 mine is transferred from the pitmouth to the crusher by means of an iron pipe eighteen inches in diameter, whence it is supplied to the coke ovens. It is in mine No. 1 that the company has installed their new electric plant for the haulage of coal. The ventilation is effected by means of a furnace and would be good, were the air ways and brattices kept in good condition. This mine is now running at almost its full capacity, and the management is striving to improve the general condition of the workings. The top is quite good and the drainage fair. My report on the upper, or No. 2 mine, can not be favorable as I am sorry to note that the furnace was located most adversely to proper ventilation, having been placed at a point having lower elevation than the drift mouth and not having the power necessary to fully ventilate the workings. The top is also treacherous, and seems to cut more in the narrow work than in the wide; which is noted in one other place in this district, viz: the Goodwill Coal and Coke Company, at Goodwill, Mercer county, W. Va.

The No. 1 seam shows four feet, and the No. 2 five feet thickness. The company are aware of the defect in the ventilation of the furnace and speak of putting a fan at a point south east of the present drift mouth.

Superintendent, M. T. Davis; D. B. Howery, Bank Boss.

FOREST HILL COAL COMPANY—(P. O., Eagle.)

The above company operates the No. 2 or Diamond seam, one and a-half miles above Eagle, and was formerly under the supervision of Major William Sharpe, and had suspended work during most of the interval covered by this report. This property is now in the hands of the receiver.

W. R. JOHNSON & COMPANY—(P. O., Eagle.)

This company operating the Block or No. 5 is a feeder of the Kanawha and Michigan R. R., located nearly opposite the Forrest Hill Company. The coal at this point is 4 to 5 feet, and is handled over an incline 2,250 feet in length. It is a new operation and up to the time of this report had shipped little or no coal.

Superintendent, Levering; Mine Boss, Wm. Boyd.

THE MOUNT CARBON COMPANY, L'T'D—(P. O., Powellton.)

Located on the short line five miles from the main line of the Chesapeake & Ohio R. R. on Armstrong Creek, this company is one of the most extensive in the Kanawha field, having an elaborate plant of 202 ovens, with crusher, &c. At their present opening where they are working the gas seam, they have 6 feet of coal, with a parting of about four inches. The railroad, about 1½ miles long to this opening was completed about the time of my last report. Much of the output is coked, and as the company have their own barges and tow-boat, they are extensive shippers by rail and water. The furnace not now being needed, is abandoned, and natural means keep up the necessary ventilation. The drainage is also satisfactory.

Superintendent, D. T. Evans; Mine Boss, J. I. Absolam. Managing Director, Evan Powell.

THE GREAT KANAWHA COLLIERY COMPANY—(P. O. Mt. Carbon.)

Located at Mount Carbon Station, this company is operating the Gas or No. 2 seam at two openings, one the Mount Carbon mine, the other the Digby, ¾ mile above. At both of these places the coal shows up 4 feet, with from 2 to 4 ins. parting. The lower or Mount Carbon workings have for some time been fitted with a fan, but on account of the difficulty of procuring water, the company have neglected running same, and I cannot give a favorable report of the present ventilation, which in some parts of the mine is good, while in others is not what it should be. This company have just erected an electric plant, and the management advise me that it is and has been its object to place a fan in what is known as Buster Hollow, as that it will ventilate the workings of both mines, and that it will be run by the electric plant just now put in operation. I trust that the company may find it to their advantage to act as above, that I may not have to call their *particular* attention to the matter again. The outside plant is equipped with ovens, crushers for coke and coal and a river tipple, enabling them to ship both by rail and water.

Superintendent, Symington Macdonald; Mine Boss, Jno. Holmes.

New River Coal Field.

GAULEY MOUNTAIN COAL COMPANY—(P. O., Ansted)

Passing from our consideration of the Kanawha Coal Field and its measures to the New River Field, we first encounter at a point between Cotton Hill Station and Hawk's Nest near the noted Hawk's Nest rock the first appearance of the lower coal measures, which, as the Sewell seam, passes under the river at this point.

The first point at which it is worked is on the Ansted's short line about a quarter of a mile from Hawk's Nest station, by the Hawk's Nest Coal Company. Three miles up the said short line after passing the town of Ansted where are located the companies' offices, we find the mines of the Gauley Mountain Coal Company, at the head of the West Lake Branch of Mill Creek. This is the largest operation in the New River coal field, having a daily output of 1350 tons and a gross capacity of nearly 2,000 tons per diem. Even during the strikes the situation of the company as regards the standing contracts, its connection with the railroad company, coupled with the friendly feeling existing between the operators and the miners, the work was scarcely retarded at all. The mines are equipped with the most modern machinery. The one hundred and two ovens being supplied with crushed coal and charged by tail rope system. A short incline connects the tipple with the drift mouth. The workings properly consist of two distinct mines. Mine No. 1 being the older of the two, is located on the left hand side of the hollow, having been formerly worked by the old Hawk's Nest Coal Company, which had practically worked out the territory adjoining the present drift mouth. The present company has extended the workings entirely through the Gauley mountains and with their locomotives are hauling coal from the Gauley side, and it is understood that they will also make new improvements up Rich Creek in connection with the Gauley railroad.

The ventilation, effected by means of a first class fan, is eminently satisfactory and no complaint can be entered against the drainage, but as some of the new work must be done on the dip, I will await with interest the action of the company for handling the water thus formed; so far, indeed, on all my visits I have found very little for unfavorable comments. In the robbings, where casualties are more liable to occur, the management has retained an experienced under foreman. The company are also extensive shippers of coke, and it may be noted that the remaining output of the mines are used for fuel for the Chesapeake & Ohio Railroad. The mine on the right hand side of the branch, or No. 2, is of newer development. The lower Kittanning or Ansted seam having a varying thickness of from seven to twelve feet is here worked. In those parts of the mines where the thicker portion of the seam is worked the miner separates such impurities as occur. While in those portions of the workings where five feet of the seam only is taken, such yardage is paid as will compensate for the different heights of coal. The miner is paid 25 cents per ton over scales.

Superintendent, William N. Page; Mine Boss, John Straughn, with assistants.

DEITZ & MASTERSON COAL & COKE COMPANY—(P. O. Hawk's Nest.)

This company operates a lease at Gaymont, one mile east of Hawk's Nest on what is known as the Holt and Snyder land. The workings are in the Nuttallburg and Sewell seam, which we mentioned as passing under the river near Hawk's Nest, and which, at this point, attains a thickness of three feet two inches, having a good top and lumping unusually well.

This is a new company working on the old Gaymont lease. The ventilation by means of a furnace is fair, as is also the drainage.

Superintendent, T. A. Deitz; Bank Boss, J. W. Masterson.

THOMAS COAL COMPANY—(P. O., Sunnyside.)

Located at Sunnyside on New River. This is the second operation working the Sewell and Nuttallburg seam on New River, having also a lease on the above mentioned Holt and Snyder land. In my former report you will notice that I have stated that the ventilation by means of their furnace was poor; on my first visit I found fire damp accumulated on the main heading caused by neglecting to place break-throughs sufficiently close to one another to produce sufficient air currents. Leaving instructions that the mine boss should allow no men to visit that portion of the mine at any time until he had personally examined the workings in that locality. On another of my visits I found that they had been neglecting the furnace on account of the slack run. To this neglect also, I called their attention, and assured the company that on my visit among them, it was most distasteful to me to be forced to bring such matters continually before them. While I can not absolutely complain of their drainage, I think some little attention bestowed thereon would be highly beneficial.

Superintendent, D. P. Bishop; Bank Boss, A. S. Pike.

W. A. BURKE COAL COMPANY.—(P. O., Elmo.)

The above Company also operates the lease of Holt and Snyder, located at Elmo, one mile west of Fayette Station. The Nuttallburg or Sewell seam, having a thickness of 36 inches, is here worked.

This is comparatively a small operation, but in prosecuting their work, they have driven quite a ways under the mountain and have quite a distance for their air to travel. The drainage and general condition of the mine are fair. As before noted, a great portion of the output is shipped to private parties, having quite a reputation as domestic fuel, and possessing unusual lumping qualities. It is largely used in Staunton, Va., and in the adjoining towns. Like all of the New River mines, an incline connects the drum house with the tipple. Their side track has been lately extended and now connects with the main line of the Chesapeake and Ohio Railroad near the Company store.

Superintendent, J. W. Parrish; Bank Boss, Thos. W. Burke.

FAYETTE COAL AND COKE COMPANY—(P. O., Fayette.)

The Fayette Company, operating on a lease from J. M. Blume, is one of the oldest operations on New River, having been opened up by Wm. Masters in the seventies, from which time it has been a successful operation. The Nuttalburg seam of three feet is worked at this point. About the time of my previous report, the strikes, slack-run and discouraging outlook in the coal business, combined to cause the company to let the general condition of their mine run down. And by reference to the previous report you will note that I laid particular stress on the antiquated practice of using canvas doors for brattice, which at best are exceedingly poor stoppages for air and must be carefully looked after to be of any service. On my last visit to these workings, the general condition was vastly improved. The furnace had evidently been renovated, the stoppages tightened and many indications of care and forethought on the part of the management.

Superintendent, J. A. Boon; Bank Boss, Val Bachman.

NUTTALLBURG COAL & COKE CO.—(P. O., Nuttall.)

The above operation, located about three miles above Fayette

Station, was the first mine opened on New River, having been started by Mr. John Nuttall, the veteran coal operator, who shipped the first coal over the Chesapeake & Ohio after its completion in 1873. From which time it has been in continuous and successful operation.

The company is working the seam of coal named after the operator which at this point is 42 inches, but which often does not exceed three feet. The entries are long, in two cases, being considerably over a mile. The extent of territory being operated exceeds that of any mine in the third district of West Virginia and I am much pleased to state that in all my visits before and since my last report, the condition of the mine, both as regards ventilation and drainage, is satisfactory. This lease is from Mr. John Nuttall, to the Nuttallburg Company and by reason of its location and extent, it is operated by these unusually long entries and air courses with the rooms turned off of each. Each of the sets of entries has its own separate furnace and a man employed constantly to fire the furnace. It may be interesting to note that not a pound of coal shipped from this mine is hauled less than three quarters of a mile and that there are men employed at present by the company who have been with them over eighteen years. One man having started an entry seventeen years ago, which now bears his name. These mines have been running quite steadily on a private order for the last year.

Superintendent, W. H. Holland; Bank Boss, Philip Gray.

KEENEY'S CREEK COAL AND COKE CO.—(P. O. Nuttall.)

This mine, located at the mouth of Keeney's Creek, one mile above Nuttall, is also a lease of John Nuttall, and under the same management as the last mentioned mine. The workings are not quite so extensive, having been started later. But even now, the long entry extends to the crop on the Keeney's creek side at Contrary creek, near the lease of the Boone Coal and Coke Co. The coal in this mine ranges from three foot to forty-five inches. The furnace formerly used for ventilation is now in disuse, since the outlet on Keeney's creek being a greater elevation than the drift mouth, affords an excellent current at all times. While the mine is somewhat cut up and not in the condition of the old Nuttallburg bank, I have no particular complaint to make.

Superintendent, W. H. Holland; Bank Boss, J. W. Small.

THE BOONE COAL AND COKE CO.—(P. O. Winoma.)

The Keeney's Creek branch of the Chesapeake and Ohio railroad, beginning at Keeney's, on the main line, runs up Keeney's creek for a distance of eight miles, having six mines and taking quite a prominent part now in the supply of coal for the agency on New river. The Sewell seam exists here in somewhat thiner strata, but of unusual cleanness. And its quality for lumping well is readily acceded. Going up the branch line, we first find the operation of the Boone Coal Co., being a lease from John Nuttall and lying directly back of the Nuttallburg and Keeney lease. This mine has been in active operation a little less than two years and is working the Sewell seam which at this point is forty inches. A tramway of some little extent connects the drift mouth with a short incline, whence the coal is run to the tipple. Owing to the location of lease, they were unable to open the mine directly on the main line of the railroad, but were unavoidably forced to construct the said tramway in order to get behind the coal and develop the territory on the raise of the coal.

The ventilation by means of a furnace is fair as is also the drainage.

Superintendent, W. F. Boone; Mine Boss, Wm. Crickmer.

BALLINGER COAL AND COKE CO.—(P. O. Nuttall.)

Located on the branch line of the railroad, about a mile above Boone's, we find the Ballinger Coal and Coke Co., operating two mines in the Sewell seam. it having a thickness here of about four feet. No. 2 mine, being the first one met with on ascending the railroad, has just begun shipping coal and nothing but the drift mouth and a little entry have been completed.

Mine No. 1, about half a mile above the new opening was the first shipper of coal on the creek. Till very recently, there were three entries driven to this mine and by reason of their not being connected, the air was quite tight. Every effort was made to unite the several portions, and I am pleased to say that at the time of this report the air has free circulation from section to section. Openings have been made at the crop in several places and an air shaft has been sunk. Like all new mines they have had their difficulties to overcome, but as the same parties connected here were interested in the development of Nuttallburg, I presume that they will take as much interest in the prosecution of the work here, as at the parent mine.

Superintendent, Geo. H. Holland; Mine Boss, John Christian.

SMOKELESS COAL COMPANY.—(P. O., Winoma.)

This mine, opened by William Masters before the completion of the Keeney's Creek branch, had a change in its management soon after the first coal was shipped. Messrs. Masters and Son having transferred their interest in this, a Nuttall lease, to Messrs. Campbell and others of the Beechwood Company, on New River. Quite an extensive incline connects the drum house with the tipple. The same Sewell seam is worked here as at the other places, having a thickness of forty inches and when loaded on the cars, the unusual tendency of the coal to lump is very marked.

The ventilation, by means of a furnace, is quite good. The cross entries, though turned on the correct magnetic degree for mining on the raise, were found to make water and have been turned more to the raise, now affording satisfactory drainage. The top is of slate, peculiarly stratified with bands of hard flint.

Superintendent, Jno. C. Campbell; Mine Boss, Wm. Hall.

ROTHWELL COAL COMPANY.—(P. O., Nuttall.)

This Nuttall lease, being about six miles from Nuttall, extends from Keeney's Creek across to Bracken's Creek, waters of Meadow River. The general condition of the mine is satisfactory. The ventilation, being effected by means of a furnace and all the workings being to the raise. The coal raises quite rapidly from the drift mouth in and I understand that it is the intention of the Company to make use of rope haulage, endeavoring to get sufficient momentum on the loaded trip coming out to return the empties back to the parting. This Company were ready to ship coal immediately on completion of the railroad to their mines and rapidly increased their output to two hundred and fifty tons per day. Though a comparatively small plant, the tipple and incline are carefully constructed and little trouble is encountered in quickly handling the coal. The top being sandstone, they resort to shooting the bottom in the entries The coal averages three feet nine inches, lumping well and being unusually free from sulphur.

Superintendent, Fred P. Rothwell; Bank Boss, Charles Higgins.

J. F. CAVENDISH COAL COMPANY.—(Postoffice Lookout.)

This is the last operation on the Keeney's branch, it being also a Nuttall lease, but as the Company have shipped scarcely any coal and but few men are working therein I did not deem it necessary to make an inspection trip. The coal lumps well and is thirty inches thick.

Superintendent, J. D. Cavendish; Mine Boss, Thos. Stead.

NEW RIVER COKE COMPANY.—(P. O , Caperton.)

Passing from consideration of the Keeney's Creek operations, we find the New River Coke Co., one of the oldest operations in the territory, working the lands of its president, M. Erskine Miller. In considering these mines, we must divide our attention between the old one, No. 1 and the new drift, No. 2, opened sometime ago across the hollow. In No. 1, the Nuttall or Sewell seam of a thickness of four feet is practically worked out. Since the entries were driven entirely through the hill and the bulk of the coal from this section comes from pillars.

Connected with the incline, the Company have resorted to rope haulage, whereby the momentum of the loaded car descending the incline brings the mine car to and from the drift. The works were of a very extensive scale, since the company have been operating almost since the railroad first developed the territory. The ventilation by natural means is only fair and I presume the great trouble arises from the fact of there being so many break throughs in the old work that leak and require careful attention.

The new mine, working the same seam with practically the same thickness of coal, has only developed a small territory. In connection with the ovens, 133, which are charged by a locomotive, the company have made substantial changes on their tipple, greatly on account of the supply from the mine on the south side being necessarily stored in the same tipple. The greater part of the output is coke, as the product of the ovens has considerable reputation and seems to find ready sale, the ovens being charged by a locomotive.

Superintendent, G. H. Caperton; Mine Boss, Thos. Gosnay.

WILLIAM BEURY, COOPER AND COMPANY—(P. O., Caperton.)

This mine, operating at the same station as New River, is really the completion of the old Beury, Cooper Company, and nothing now remains, except a few rooms and the robbing of a few stumps and the chain pillar. The work is now being prosecuted under a sub-contract and so few men are employed that an inspection of the same is hardly deemed necessary. The Sewell seam is here worked and has a thickness of four feet, two inches.

LONG DALE IRON COMPANY—(P. O., Sewell)

Among the most prominent operations, working daily, we find the Longdale Company, with the manager's office at Sewell Station and chief store and mines at the terminus of a nine mile short line extending from the Chesapeake and Ohio railroad to Cliff Top.

All the output of the mines with the exception of that used for domestic purposes is used in the manufacture of coke, which is prepared in its 193 ovens at Sewell and shipped to the furnaces at Longdale, Va.

The little village at Cliff Top is quite a model mining town. The Company's store, quite large, and the workings of the Company are quite extensive. The Sewell seam, worked at this point, with a thickness of thirty two inches, has honeycombed quite an extensive territory, and at all my visits, I found the Company endeavoring to keep its mines within the requirements of the law, both as to ventilation and drainage. A furnace six by eighteen feet located quite a distance from the drift mouth by proper attention and tight brattices, maintains a steady air current. It seems strange that though the top in many places is quite good, yet when the mining is done about on the strike of the coal, the slate persists in cutting and in order to render it safe for the employees, the Company is forced to cross-timber it, causing much trouble and expense, but I am glad to say they do not pile the gob in the entry.

The entries are run to centers, which is rather unusual in some of the low coal veins along New River. And I may mention in this connection that carelessness in regard to straight entry and the allowing of rooms to break into one another has been the reason why so many mines are not and have not been satisfactorily ventilated It is almost an impossibility to ventilate a mine which has been all cut up and where brattice after brattice is needed.

Superintendent, J. A. McGuffin; Mine boss, Thos. Burke.

FIRE CREEK COAL & COKE COMPANY.—(P. O. Fire Creek.)

This Company, located at Fire Creek, three miles above Sewell, ranks among the pioneer mines of the region, having been one of the very first to ship coal over the Chesapeake and Ohio railroad, after its completion in 1873.

The ventilation, effected by a fan, gives good results, while drainage is also satisfactory. The Fire Creek seam, taking its name from this operation, having a thickness of three feet two inches, is here worked, while I understand that the company contemplate developing the upper or Sewell seam, which on this property shows up four feet in thickness. Like several other mines, under the same head management, this operation has quite a large private order business, and by reason of its coal lumping with unusual readiness, it has gained quite a reputation as a domestic fuel and is mostly shipped to concerns in the east. It is in the workings of this mine that we find rope haulage working most favorably. The main entry, I presume, is over a mile long, much of which distance is covered by the rope and arrangements are made by which connections are attached to the main entry haulage and coal pulled from the cross entries. The trips run at the rate of from five to six miles an hour. About next Christmas, they expect to drive their main entry to daylight at the further end of the property, which is owned and controlled by the stockholders of the Fire Creek Company. A locomotive and quite a length of road are used between the drift mouth and the tipple. The coke manufactured by the company has quite a large per cent of fixed carbon and finds ready sale.

Superintendent, G. H. Caperton ; Bank Boss, David Stoddart.

THE CENTRAL COAL COMPANY—(P. O., Fire Creek.)

Located a half mile above the Fire Creek Company and operating property adjoining. This mine works the Fire Creek seam, having an average probably of four feet, being more or less subject to rolls, in some of which cases the coal tails out to nothing, and in some places is six feet.

The coal, like several of the neighboring companies working the same seam, lumps well and seems especially adapted for the firing of stationary engines and for manufactories and domestic purposes.

Here also we find the rope haulage used, but the natural formation of the stratum has so adapted the grades of the main entry, that the loaded cars descending to the top of the incline return the empties back to the parting in the mine. The ventilation and drainage are both effected by the roads and on this account the mine is considerably cut up and its general condition not such as I would desire.

Superintendent, J. R. Seal; Mine Boss, P. J. Riley.

WILLIAM BEURY, COOPER & CO.—(P. O. Beury.)

This Company, located one mile above Fire Creek, at Echo, operates the upper or Sewell seam, and the lower or Red Ash seam, employing the same tipple for both and a continuation of the same incline for the upper nine.

The new opening in the upper seam develops rather a small territory being mostly crop near the top of the mountain, the coal being about four feet thick. Like most mines with light cover, they are considerably annoyed in wet weather by water and the ventilation, acquired by natural means, is rather uncertain and poor. The lower mine, operating the Red Ash or Fire Creek seam has been very extensively worked, and the Company has just completed an extensive and elaborate system of rope haulage, which with the long hauls they have to contend with, makes the handling of the coal much more profitable and satisfactory. The seam at this point abounds in rolls and faults and in quite a number of instances and the Company has often been forced to drive long distances with only a slight showing of coal. On one of my visits they were almost daily expecting two entries, driven from far distant points, to connect and as usually the case in such instances, the ventilation was far from satisfactory; however, since then, the entries have headed, enabling the fan to do better work.

Twice I visited the mine when the fan was broken and idle, and I fear that the management do not give the ventilation of the workings proper care and attention. The drainage was quite good. This mine is a notable instance of faulty coal and work cut up by lack of centers, making the ventilation to be sluggish. The tipple, under construction some time ago, is not yet completed.

Superintendent, J. L. Beury; Mine Boss,

DIMMOCK COKE & COAL COMPANY.—(P. O., Thurmond.)

This is another of the Beury-Cooper mines, situated one mile west of Thurmond, in the bend of New River, on the land of the Beury brothers, where they are operating the Fire Creek or Red Ash seam, having an average thickness of three feet eight inches, while in the new heading it attains a height of five feet. On my first visit to this mine, they had just driven for quite a distance through a fault, which in some places was entirely devoid of coal and in the headings the air was very tight. The object that the Company then had in view, was the driving of a cross entry off the main and placing a furnace at that point, which would be more advantageous in the ventilation of the new workings. They were delayed greatly by the strike and water, which poured into the face of the working, forcing them to abandon the point at which they had contemplated driving out. By double shifting the entry and working the force also on the outside, they forced the entry through to daylight at another point and since that time the ventilation has been vastly improved.

The furnace formerly had a pull of two and a half miles before it returned to the exit. The lower portion of the mine is now being robbed and the company have placed a system of rope hauling in the main entry, greatly aiding them in the handling of the coal. Their first intention was to put on a locomotive for an outside haulage and they had graded the tramway for same, but for some reason altered their plan. The ventilation, at present, is quite good and the drainage fair but the top is treacherous and gives much annoyance.

Superintendent, W. H. Thayer; Mine Boss, George Moran.

BEURY COAL AND COKE COMPANY—(P. O., Stonecliff.)

This company, working at Stonecliff, one mile east of Thurmond, operates both the upper and Sewell seam, averaging about four feet in thickness and the Red Ash or Fire Creek seam, averaging three feet.

This mine is another one of the original New River operations, which, on account of the rolls in the coal and the lack of careful engineering in the past, has been badly cut up. and the management now have much trouble in keeping up brattices and preventing leakages. And for this reason, the ventilation of the mine varies greatly, being fair in some portions of the mine in others poor. The workings in the upper seam are connected with those in the lower by a continuation of the incline and by a mile of tram road and consists mostly in crop workings under light cover. I was forced to complain of the ventilation up here, as they trusted too much to forcing daylight holes at different points of the crop. The top, also, is none of the best. The lower mine, as stated above has been badly cut up, and whereas the ventilation is poor, I do not see where they can very well improve it without great labor and expense.

On the right of this opening, there is a second called the tunnel mine, in which the main entry has been driven to the far outcrop and the draft of air caused by the difference in the altitudes, is sufficient to ventilate a territory of twice the extent we have here.

In one of my former reports I spoke of the poor ventilation in Carter's entry, where break-throughs were needed and where the work was so badly off centers that the pillar had increased in thickness to such an extent that the time required to drive the needed break-through was too much for the proper ventilation of that section of the workings.

The drainage is fair. I learned that the coal is quite hard, lumping well and that some time back when a number of cars were shipped from the different collieries and a few selected as picked specimens, this company furnished by far the largest number.

Superintendent, O. C. Kubach; Mine Boss, W. G. McDaniel.

BEECHWOOD COAL & COKE COMPANY.—(P. O. Claremont.)

Located at Claremont Station, this company operates two mines on the lands of the Beury Brothers, called Beechwood or No. 1 and Keystone or No. 2, working the Fire Creek seam, averaging three feet ten inches. The former is the original opening of the Company and has developed a large territory, which like several of the upper New River mines has been badly cut up and the Company have been at much trouble and expense of late in tightening up the brattices and keeping the haulways clear of loose gob. Sometime previous to the compilation of this report, there was a change in the direct management of the Company and when last there, I found them entirely renovating the mine and endeavoring to bring its general condition up to the requirements of the law. They were at that time driving a fan entry from a point near the present old drift to the crop and assured me that they would place in working a new fan, which has laid on the site for nearly a year in disuse. The ventilation in neither of the mines is what it should be, more especially that portion adjoining the Keystone mine. I am informed that some of the old works of the Alaska Coal and Coke Company, were tapped by entries from the Beechwood Company and the outflow of water was of considerable annoyance. Immediately to the left of the drift mouth of Beechwood mines are some old workings, consisting of pillars, which are now being drawn under a sub-contract. From the parting of the main entry, a system of rope haulage lands the coal at the top of the incline.

Superintendent C. C. Beury; Bank Boss, R. B. Hanna.

ALASKA COAL AND COKE COMPANY—(P. O., Claremont.)

This operation located at Alaska, a short distance above Claremont, its postoffice, operates the Fire Creek or Red Ash Seam, which at this point attains an average thickness of 4 feet 2 inches, having a parting of boan from 1½ inches to 3 inches near the middle of seam. As the workings have been enlarged they have made three openings, one being at the head of the incline and about worked out. This is the section immediately adjoining the Beechwood and Keystone mines and from whence the outflow of water into the latter occurred. Another drift connected with this by a tramway of considerable length, affords the bulk of the output, from which the coal is hauled by a locomotive. A few hundred feet beyond along the outcrop we have the new opening which has not as yet opened up much territory, and the grade to which is so steep as to render the locomotive useless. The ventilation in the old No. 1 mine is good as is mostly the case where no new work is in progress, and pillars being taken. In No. 2 opening I was not well satisfied with the ventilation, as I found them too prone to neglect the breakthroughs, and as will be noted by referring to my last report, I have been forced to call their attention to this defect before. The mine and their 20 ovens run quite well and I am informed that their coal is in demand by reason of its superior lumping qualities. Lately they have replaced the trestle at the lower end of the incline, by a new and heavier structure.

Superintendent, George Lawton; Mine Boss, W. M. Brown.

STERLING COAL AND COKE COMPANY.—(P. O., Coit.)

The above Company, operating the last and most eastern lease of the Beury Brothers' estate, is located at Coit, about 2¼ miles above Claremont, and is working the Fire Creek or Red Ash seam, which at this point is about 34 inches with no partings, and like many coals in this vicinity, lumps unusually well. Located at the top of the incline is the old drift which is now mostly worked out, and where they are employing but few of their men. On my last visit I found the head of the last left hand entry taking off the main in a very poor condition. Here they were endeavoring to force the workings to the crop, and being too far from the furnace to be in the least affected by it, the air was both foul and tight; moreover, being on the dip, the men were working in water. This state of things is unnecessary and I left instructions with the superintendent to locate the entry on the crop and at that point where it would hole to daylight, to immediately start a force of men drifting in to meet the miners from the inside. This would hasten better drainage and give the needed ventilation. Like several of the mines heretofore mentioned in this report, most noticeably Echo and Stonecliff, this operation has neglected the proper attention to the mining of coal and has cut the mine up so badly that it would be a matter of study and expense to even ventilate it respectably. A system of rope haulage is employed to bring the coal to the drift mouth. Connected with the above opening by tramways are two others, which two the company are endeavoring to connect, and where somewhat more attention is given to the condition of the mine. They tell me that the presence of faults and rolls is responsible for the poor condition of the workings, but even though we grant this, I can not see why such things should occasion the persistence of leaky break throughs and gobbed air ways. There are some mines which are in such a condition that nothing but a cessation of work and a complete overhauling would put in satisfactory repair, and it seems that some operations will force me to resort to this plan of proceedure.

Superintendent, J. F. Jones; Mine Boss, E. J. Robertson.

QUINNIMONT COAL COMPANY.—(P. O. Qunnimont.)

This company located at Quinnimont, 375 miles west of tidewater at Newport News, have made many extensive improvements, including the development of the territory back of their former workings, where the Quinnimont, supposed to be also the Fire Creek seam, is worked, having in the old mine an average of three feet, and the new openings of 50 inches, clean coal.

To work the old mines the company employed quite a long incline and a short spur track from the main line of the Chesapeake and Ohio R. R. Lately they have extended this siding for a distance of three and one-half miles, put in an electric plant from the general electric company, and have erected an elaborate tipple, having improved screens and appliances patented and designed by the superintendent, D. C. Boyce, Esq. Back of or extending Northeastward from Quinnimont we have an extensive area underlaid by the Quinnimont and New river seams of coal, but continuing eastward along the C. & O. R. R., we found the coal measures rising rapidly, and inaccessible for economic development save by long inclines and branch railroads up the several creeks. Superintendent, D. C. Boyce, Mine Boss, Jno. McIntosh.

ROYAL COAL AND COKE COMPANY—(P. O., Prince.)

Continuing our discussion and passing across New River, we find our only operation in Raleigh county, the Royal Coal and Coke Company. This operation is working its own property opposite the Stretcher's Neck Tunnel, and having its tipple and side tracks on the north side of New River, it transfers its coal from the drift mouth by means of a connected system of buckets thirty-eight in number and each having a capacity of one-half ton and weighing when empty 700 pounds. The span from the tipple on one side of the river to bent on opposite is over 700 feet, and from anchor to anchor of rope is 2,300 feet, having three safety brakes to drums, on which a jet of water is constantly allowed to play. The mine consists of two openings one at the head of the drum house being the more extensive. The Red Ash or Fire Creek seam having a varying thickness of from 2½ feet to 3½ feet is worked. On one of my last visits, I was surprised to find that a slide had occurred, which had filled the furnace and rendered it useless—thereby causing the ventilation to be poor. On my next trip I found this defect remedied, and while the ventilation was fair, I could but note and comment upon the extensive and injurious use of a mixture of black strap and kerosene, or coal oil, used by the drivers in their large lamps. This caused much smoke and was an annoyance to the miners, and I urged the superintendent to compel its disuse by a penalty of discharge. The inferior grades of miner's oils now placed upon the market are deleterious enough without resorting to those mixtures of most volatile and fumigacious carbons. In what is known as the Rushford's entry I found them using the old canvas brattice, for conveying the air currents to face of workings. It may be here noted that by reason of the heavy grade on the main entry, a ⅝ inch wire rope is used to haul coal to the last parting. The opening No. 2 on the left side of the property is of more recent development and the condition is about the same as old portion of the mines. I trust that this company will see it to their advantage to place in a fan. The drainage is quite good.

Superintendent, James Kay; Mine Boss, Jno. Lang.

Loop Creek Territory.

Shortly after the completion of the Ohio Extension of the Norfolk and Western railroad, the Chesapeake and Ohio railroad, caused preliminaries to be run up what is known as Loop Creek, with the intention of constructing a branch line up same. As far back as 1874, there was known to be a vast and valuable deposit of semi-bituminous coking coal of high grade and considerable thickness, underlying the Fayette and Raleigh plateaus and extending thence southwesternly and exposing its croppings in what is now known as the Flat Top coal field, acknowledged to be the most regular and extensive coal deposits of our country. The great conglomerate in which the New River coal are found, first presents itself as we travel the C. & O. railroad westward, near Hinton, and forms usually the crests and tops of the hills facing New River and disappears between Cotton Hill and Kanawha Falls, thus forming the New River canons for a distance of 60 miles. As we go back into the country of the Upper Loop Creek, on each side a new range of hills soon appears, and in these case will be found more coals. In the vicinity of the old McCoy farm, where the Collins Colliery Company are now operating at Glenjean was originally a country coal bank showing on the outcrop 6 feet and 5 feet 3 inches, in the breast, then again near where Macdonald now stands was the old Godby opening, where we have 5 feet 4 inches of clean coal; again on the old Buckley's Mill tract in the vicinity of Raleigh Court House we have 6 feet 2 inches, with a light shale overhead. It was to develop this territory that in 1893 the Chesapeake and Ohio railroad commenced the construction of the Loop Creek project, which has been complete for ten miles and on which are now in succesaful operation six companies having a combined output of 103 cars per diem, working the same seam and having about the same advantages for mining. It seems that nature has favored this territory, in that as the railroad after reaching the top of the river cliffs, ascends, in like manner does the coal rise, and at the collieries the seam is in such relative position to the railroad that no incline must be resorted to.

MACDONALD COLLIERY COMPANY—(P. O. Macdonald.)

Located at the western extremity of the Branch R. R., ten miles from its outlet at Thurmond Sta., this company operates the Sewell seam on a lease from T. G. McKell, which seam attains at this point a thickness of 5 ft., 2 ins., being entirely clean, except where sandstone top is met with, when what is known as top coal is met having a varying thickness of from 5 in. to 1 ft. The coal when under the main body of the hill lies regularly, and has slate top, but where the territory has light cover, the measure seems to conform to the contours of the country, and has sandstone top. The present workings of this company are confined to a point or ridge, and they are now just entering upon the main body of their lease, having an entry 2600 ft. double tracked and laid for great part of its extent with 30 lb rail. From a point about two thousand feet from the drift mouth, the loaded trips are allowed to run to the tipple by gravity. Thus far natural ventilation has been depended upon as the narrow extent of the present working and the proximity of the crop, enable them to drive an entry for air when needed. Four of such outlets are now to the crop, and I am advised by the management that when they have begun the working of the main body of coal, a fan and improved machinery for the handling of coal will be put in. As will be observed from the extent of the main entry 2600 ft.—they have been pushing their work night and day, and from the regularity with which these Loop Creek collieries have been working, but a short time will elapse before a territory of considerable extent will be developed. Immediately upon building their side-tracks this company erected quite an elaborate tipple, by which they have been prepared to furnish lump, nut, and slack, and to make an entrance into the markets of Cincinnati, heretofore rarely supplied by the New river mines.

The erection of an elaborate and large store and about 55 houses may be noted among the improvements of this company. The miner is paid by the car, as in Pocahontas.

Superintendent, S. Dixon; Mine Boss, V. A. Miller.

TURKEY KNOB COAL COMPANY—(P. O , Macdonald.)

Located on an adjoining McKell lease to the Macdonald Company, this operation works the Sewell seam, having at this point a thickness of 5 feet 8 inches, it being the greatest steady height worked in the vicinity. The connection with the railroad is made by a side track ¾ mile long, and switchback. This company are also prepared to ship the different grades of coal and are shippers to the West. The top in much of the mine is poor, but they seem to give reasonable attention to the safety of employees. The ventilation and drainage are quite good and I am advised that on further developing their lease and getting under the body of the coal, they will at once place in a fan.

Superintendent, J. V. Wright; Mine Boss, Jas. Barr.

DUNNLOOP COAL AND COKE COMPANY—(P. O., Dunloop)

On first starting its operation this company had much trouble in forcing through a vault in the main entry, which for quite a distance shut off the coal. Since getting through same the seam had showed a thickness of 5 feet 2 inches, with, in most places, a slate top. The ventilation, by means of a furnace, is quite good, with the single exception of the first left entry, where they struck a roll, and where they drove too far without a break-through; few men, however, worked ahead of this point, which was shortly stopped on account of water. The drainage and general condition of the mine is satisfactory. The company, like most of the Loop creek operations has much annoyance from the treacherous top, and have been forced lately to place cross timbers, 5 by 8 inches, across the bearings, where permanent haulways are needed. A tramway 900 feet long connects the tipple and mine.

Superintendent, Floyd Walker; Mine Boss, W. Herbertson.

COLLINS COLLIERY COMPANY.—P. O., Glenjean.)

Located at the town of Glenjean, 6½ miles from Thurmond, this company in its two mines operates the Sewell or Nuttall seam, having a thickness of 5 feet of clean coal. This is also a McKell lease, and of its whole extent but about 25 acres fails to be underlaid with the coal. Coming up the short line we find the seam about 65 feet above the roadbed at Harvey, and at Glenjean we have the coal passing below the level of the creek and rising therefrom at a point 1 mile above. Each mine is ventilated by a separate Brazil fan, that of No. 1 mine on the left of Crooked branch being 15 feet, and that of No. 2, just across the hollow, being an 18 foot fan of same make.. The ventilation in both mines is satisfactory, and although the drainage of No. 1 is good, I have been forced to call the mine boss's attention to the accumulation of water in the entries of No. 2. Lately the first right hand entry, formerly being driven for drainage, has holed out near the railroad, and it being the lowest point in the whole lease should, with attention, drain the workings. Connecting mine No. 1 with No. 2 is an elaborate tipple at an elevation of 34 feet above the railroad track; while the coal from both mines is hauled and landed on the one tipple, whence it is dumped direct into cars on the siding. Immediately connected with the tipple is a slack bin, with a capacity of 550 tons, a complete set of conveyors and scrapers, and 100 ovens, built on the Bee Hive pattern of the Norfolk and Western Railroad operations. The plant is constructed for a capacity of 1,500 tons per diem and is the most elaborate outfit in the New or Kanawha River field. I am informed that the hoisting engines, built and patented by the Southside Foundery and Machinery Company, of Charleston, are the largest in use for similar purposes, having four connected drums, and a combined energy of 350 horse power.

President, Justus Collins; Mine Boss, James Kelso.

STAR COAL AND COKE COMPANY—(P. O., Redstar.)

This company is located at Star, five and a-half miles above Thurmond, and operates the Sewell seam—having a thickness of four feet seven inches and is the only company on Loup Creek developing its own property. In the outset, this company was put to a great deal of annoyance and expense by reason of encountering a serious roll, which entirely shut out the coal by sandstone. However, they have gone successfully through the same. Where slate is met with as top, it is very treacherous, and much attention on the part of the mine boss is required to prevent casualities. A system of rope haulage, manufactured by the Milhollands, is employed to bring the coal to the tipple. The ventilation by means of a furnace is fair, and I am informed, that the company intend putting in a fan at once. The working being on the dip, much trouble is experienced with the water.

Superintendent, George Jones; Mine Boss, Joseph Thurmond.

HARVEY COAL AND COKE COMPANY—(P. O., Bissel.)

Located five miles above Thurmond. This company is the first one to work the Sewell seam, which at this point shows a thickness of five feet four inches. When first opening up the mine, the coal was in several places six feet, but I notice on investigating this vein that its average height in all the Loup Creek mines is five feet two inches when under the body of the hill and with slate top; but where we find sandstone we find it varying sometimes reaching six feet two inches and then running down to three and one-half feet, and usually in such cases having the top coal (so called by the miners.) This is without doubt one of the most favorably laid out mines for the economic mining of coal in this territory, having the advantages of natural drainage; sufficient height above the railroad for screening the coal, and having easy grades in favor of the loads. The company have lately placed in successful operation a Thayer fan which gives excellent ventilation, while the drainage is also excellent. This mine is also subjected to the annoyance of bad top in all cases where the roof is slate. Connecting the drift mouth with the tipple is a 2,500 feet tramway, over which a locomotive is run. The tipple has just been remodeled, with one hundred ovens built and fitted with a large slack bin and a set of conveyors used for the elevation of slack from the small bin under the screens.

Superintendent, James McGuffin; Mine Boss, A. G. Gibson.

New River Southside Mines.

THURMOND COAL COMPANY—(P. O., Concho.)

Continuing our discussion of the New River mines, and passing to the Southside of the same, we have the Thurmond Coal Company, operating a lease from the Low Estate. The Sewell or Nuttall seam is here worked having an average thickness of 50 inches, with a slate top, which in most parts of the workings is very treacherous, making the robbing of old workings dangerous. This operation consists of three openings; one, the old or No. 1, immediately adjoins the drum house and is mostly worked out, since now only a few entries are working, and the whole of the coal will soon be pillars. For some reason, mostly due to neglect in furnishing report, this operation was left out on my last list, and from the improvements noted in the working, it may have been better that same was overlooked, as at that time I would have been forced to make any but a favorable report of its conditions; as the former management was most persistent in neglecting the carrying out of such instructions as were left with it from time to time. Of late I have heard no complaints from the men, while before I was repeatedly advised of defects; and during the last year an electric fan has been placed in the mine, giving excellent results; a ditch of considerable extent has also been cut to effectively drain off the accumulated water, and the changes within the entire mine have been most pleasing. An electric motor is employed for handling the coal from a distant point in No. 1, to the drift, while it also enters quite a way into No. 2. No. 2 is satisfactorily ventilated by a furnace and fairly well drained, while No. 3 is and has been idle for some time. The electric cutting machines have for the time being been abandoned.

It may be here noted that the greater portion of the output is shipped to the iron furnaces at Low Moor Virginia, where it is coked and used in the manufacture of iron. Another thing worthy of note is that no serious or fatal accidents have occurred at this colliery as against two fatal and six non-fatal last year.

Superintendent, G. H. Caperton; Mine Boss, Arthur Boyd.

RUSH RUN COAL AND COKE COMPANY—(P. O., Rush Run.)

Located on the south side of New River opposite Dimmock, this company operates the Red Ash or Fire Creek seam which at this point attains its greatest thickness, averaging 5 feet 2 inches and in some places showing 6 feet of clean coal. The territory developed is one of the most extensive on New River, having entries over 3,000 feet in length, and a capacity of 600 tons per diem. As to the general condition of the mine I can not speak very favorably as the extent of the workings justify better means of ventilation than that now in use, since by reason of the furnace being almost on the same elevation of the intake, and there being no future intake for the air available, there is great need of a fan. I called the attention of the management to this defect several times and have its letter to the effect that a fan would be ordered by October 1, 1895. This in reply to my letter to them of August 2, 1895. They have had some other changes in contemplation and I have held off asking for improvements till this late date, that all might be done together. As a developed body of coal, this is superior to any in this section, usually maintaining a good height and lumping well. The mining is done on the dip, and although considerable water has to be contended with, it is my opinion that the company employ reasonable means to keep it in check. The top consisting of from 12 to 20 inches of draw slate (which is often overtopped by a six inch seam of coal), is very treacherous, often falling and gives the company much annoyance and expense. It may, however be noted, that while the miner is making his cut and after the same is fired the top seems to be quite safe, and it is mostly due to the effect of air and disintegration, caused greatly by the presence of the streak of coal referred to above, which renders the top in the old rooms and robbings so treacherous.

Superintendent, F. Howald ; Mine Boss, Jos. Schweitzer.

RED ASH COAL COMPANY.—(P. O., Fire Creek.)

This operation, located opposite Fire Creek, operates also a Low lease working the Red Ash seam, being at this point on an average five feet, but varyinggreatly. Sometimes showing six feet and over, and again tailing out to nothing. The output of this mine most noticeable, the lump, has gained quite a reputation for itself as a domestic fuel, much of it being shipped to the east for private uses. The ventilation of the mine is rather poor, caused more by the presence of rolls and faults than negligence of the mine boss. The drainage is unusually good. Some difficulty has been experienced by the company in getting around a very serious fault, which had shut off each entry in the mine. For the last eight months, they have been driving a test entry, and from the present indications they have again met with good coal, as it shows up in both rooms and headings five feet five inches. During the scarcity of coal while arriving around the fault, they opened up a new drift on the Rush Run side of their lease, where the coal also makes a good showing. This portion of the mine has not been driven far, and I trust that a furnace will be placed at this drift when needed. The top throughout the old workings is fair, while that in the new mine on Rush Run side is bad.

Superintendent, F. Howald ; Mine Boss, Jno. Laing.

BROOKLYN COAL COMPANY—(P. O., Sewell.)

Located opposite East Sewell is the fourth of the Low mines, under the same management as the last two mentioned. The Sewell seam is here worked, having a thickness of 50 inches, with a fairly good top. The ventilation by means of a furnace is quite good, and the drainage, when we bear in mind the fact of its being mined on the dip, fair. The top in that portion of the mine near the crop is sandstone, and in this portion robbing has been started.

Top is now shot at this mine for height instead of bottom as formerly.

Superintendent, F. Howald ; Mine Boss, John Eastham.

CUNARD COAL COMPANY—(P. O., Sewell.)

This operation located on the Southside of New River opposite Sewell Station, is another of the mines working the Sewell seam on a lease from the Low Estate. The coal is four feet thick, having few rolls and faults and fair top, usually slate. The ventilation by means of a furnace is usually good, but often through the neglect of the mine boss, cutting and stoppages of the breakthroughs are not properly attended to. Some little robbing has been started on the second right, but the work is mostly new. A short while since an entry was driven through the hill to the Coal Run side, affording better means of ventilation. It seems that in driving the main entry air course under a hollow, they inadvertently passed too close to the crop, causing the top to cut badly and a portion to fall in. I spoke to the mine foreman relative to this and will look to its being timbered and held. The drainage is fair considering its dip workings. In order to preserve the main haul ways in good order, they have corduroyed or cross tied them.

Superintendent, F. Howald; Mine Boss, G. W. Eastham.

NEW RIVER COKE COMPANY—(P. O., Caperton.)

This mine located on the southside of New River is another lease of the Low estate, and is but an offspring of the same company on the north side of the river, having the same tipple and supplying the same block of one hundred and fifty ovens. Connection between the two mines across the river is made by a wire rope tramway, consisting of the suspension of two ropes 2,000 feet from anchor to anchor, and the traveling of two buckets thereon--the gravity of the descending load returning the empty to the drum house. The buckets have a capacity of two and a-half tons and make a trip every one and one-fourth minutes. The general condition of the mine is good, although they are much annoyed by water having to operate on the dip. The coal is four feet thick, clean, and the top after several inches of draw slate come down, good. Trouble was at first experienced in the main entry by the slate cutting and timbering was tried but abandoned, as they found pulling the draw slate best. The main entry in this mine is also cross laid.

Superintendent, G. H. Caperton; Mine Boss, William Gilmour.

BROWN COAL COMPANY—(P. O., Nuttall.)

Located on the southside, opposite Nuttall, and is also a lease from the Low estate, operating the Sewell seam, which at this point is thirty-eight inches. At the time of the writing of this report, they had shipped but little coal and an inspection trip was not deemed necessary.

Superintendent, Percy Brown; Mine Boss, none yet.

MINE STATISTICS.

Table Showing the Output of Coal and Coke by Counties from June 30th, 1894, to June 30th, 1895.

COUNTY.	Tons of Coal, 2,240 lbs.	Tons of Coke, 2,000 lbs.	Number of Mines.		Number of Ovens.		NUMBER OF EMPLOYEES.				
			Open.	Opening.	Complete.	Building.	Miners.	Inside laborers.	Outside laborers.	Making Coke.	Totals.
Wayne	21,101		2				24	2	2		28
Mingo	95,279		3	1			126	11	21		158
Logan	40,610		2				35	7	8		50
McDowell	2,440,551	504,168	31		3,758	18	2,751	310	388	916	4,365
Mercer	865,379	169,306	7		890		1,030	118	123	294	1,565
Putnam	122,057		4				367	41	50		458
Fayette	2,162,090	277,822	46	2	1,450	204	4,580	540	461	493	6,074
Raleigh	84,762		1			75	80	25	24		129
Totals	5,831,829	951,296	96	3	6,098	297	8,993	1,054	1,077	1,703	12,82

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			Open.	Opening.	Complete.	Building.	Miners.	Inside laborers.	Outside laborers.	Making Coke.	Totals.
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Putnam	122,057		4				367	41	50		458
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Totals	5,831,829	951,296	96	3	6,093	297	8,993	1,054	1,077	1,703	12,82

Table Showing Non-fatal Accidents in the Third Mining District of West Virginia.

Name.	Colliery at Which Accident Occurred.	Date.	Occupation.	Nature of Injury.	How Injured.
S. T. Lyons	Goodwill Coal and Coke Company	August 25, 1894	Miner	Collar bone broken	Blast
Lincoln Stahl	" "	March 13, 1895	Loader.	Leg broken	Fall of slate.
James Mills	" "	April 20, 1895	Car loader	Leg broken	Loading car.
Perry Zeigler	Buckeye Coal and Coke Company	November 19, 1894			
Morgan Fragg	Caswell Creek Coal and Coke Company	April 26, 1895	Loader.	Mashed hands	Coupling cars.
Henry Belcher	Booth Bowen Coal and Coke Company	April 15, 1895	Miner	Leg broken	Fall of slate.
King Montgomery	Mill Creek Coal and Coke Company	August 20, 1894	"	Slightly mashed	Fall of slate.
Robt. Montgomery	" "	August 20, 1894	"	Hand mashed,	Fall of slate.
Alex. Fairfax	" "	January 30, 1895	"	Leg broken.	Fall of slate.
Chas. Connor	" "	March 29, 1895	"	Leg broken	Fall of slate.
Bub Aliff	Coaldale Coal and Coke Company	August 14 1894	"	Mashed foot	Fall of slate.
William Nelson	" "	April 8, 1895	"	Hips mashed	Slate.
Samuel Taylor	" "	April 22, 1895	"	ollar bone broken	Slate.
Nathan Smith	Elkhorn Coal and Coke Company	March 6, 1895	Water bailer	Mashed	Loading coal.
G. M. Robertson	" "	December 23, 1894	Miner	Mashed	Fall of coal.
Alex. Johnson	Lick Branch Coal and Coke Company	March 1, 1895	Miner	Spinal injury	
Mine ac'd'nt, no name.	Upland Coal and Coke Company	June 14, 1895		Various.	Various
J. C. Baley	Powhatan Coal and Coke Company	December 3, 1894	Driver	Leg broken	Putting car on track.
Enoch Cotton	" "	December 27, 1894	Miner	Leg broken	Fall of slate.
Isaac Jackson	Lynchburg Coal and Coke Company	December —, 1894	"	Foot mashed	Fall of coal.
Jno. Burger	" "	March 11, 1895	"	Leg broken	Fall of slate.
Charles Anderson	Algoma Coal and Coke Company	December 3, 1894	"	Legs broken	Fall of slate.
Andrew Nelson	Arlington Coal and Coke Coke Company	March 29, 1895	"	Leg broken	Fall of slate.
W. C. Wall	Indian Ridge Coal and Coke Company	January 19, 1895	"	Legs broken	Fall of slate.
Dock Robeson	" "	March 9, 1895	"	Leg broken	Fall of slate.
George Brown	" "	March 30, 1895	"	Leg fractured	Fall of coal.
Luther Nelliers	Ashland Coal and Coke Company	April 15, 1895	Spragger	Leg broken	Run over by car.
John West	Pulaski Iron Company	April 10, 1895	Miner	Ribs and leg mashed	Fall of slate.
Joe Wilkins	Eureka Coal and Coke Company	July 24, 1894	"	Foot mashed	Fall of slate.
Edward Davis	Shawnee Coal and Coke Company	March 10 1895	"	Legs broken	Fall of slate.
William Olds	Empire Coal and Coke Company	November 21, 1894	"	Ankle broken	Fall of slate.
J. H. Simpson	" "	March 15, 1894	"	Ankle broken	Fall of slate.
Rich. Shatley	Bottom Creek Coal and Coke Company	July 17, 1894	"	Head hurt	Fall of slate.
J. H Walker	" "	August 7, 1894	"	Back hurt	Fall of slate.
J. E. Moss	" "	December —, 1894	"	Back hurt	Fall of slate.
Robert Tumms	" "	January 21, 1895	"	Head cut	Fall of slate.
James Curus	" "	March 7, 1895	"	Leg broken	Fall of slate.
Charles Rogers	" "	April 17, 1895	"	Foot mashed	By car.
Dan Myles	Tidewater Coal and Coke Company	November 3, 1894	"	Leg broken	Fall of coal.
Ferd Trump	" "	December 31, 1894	"	Leg broken	By cars.
A. J. Loving	Beury Coal and Coke Company	July 27, 1894	"	Back hurt	Fall of slate.

Table Showing Non-Fatal Accidents in the Third Mining District of West Virginia.—Continued.

Name.	Colliery at Which Accident Occurred.	Date.	Occupation.	Nature of Injury.	How Injured.
Emanuel Harris	Beury Coal & Coke Company	December 19, 1894	Miner	Hip dislocated	Fall of slate.
Job McComas	Dimmock Coal and Coke Company	March 9, 1895	"	Ribs broken	" "
Ned Brogan	New River Coke Company	July 30, 1894	"	Back hurt	Fall of shed roof.
H. Harrison	" "	September 19, 1894	"	Foot mashed	Car.
Jno. Pegram	" "	January 3, 1895	"	Mashed	Fall of slate.
Thos. Blair	Nuttallburg Coal and Coke Company	September 19, 1894	"	Burned	Gas.
Jno. T. Thomas	Collins Colliery Company	October 29, 1894	Driver	Broken hand	Kicked.
Chas. Henderson	" "	December 13, 1894	"	Arm fracture	Caught by car.
W. Megee	" "	December 15, 1894	Miner	" "	Blast.
Johnson Carter	" "	May 10, 1895	"	Wrist fracture	Caught by car.
Orvill McMorton	Rush Run Coal and Coke Company	August 31, 1894	Driver	Hip dislocated	Run over by car.
C. C. Vaughan	" "	October 6, 1895	Miner	Collar bone broken	Fall of slate.
Wm. Coleman	" "	March 30, 1895	Driver	Thigh broken	Run over by car.
B. G. Haden	" "	January 8, 1895	Miner	Burned	Gas.
Jacob Long	Cunard C. Company	September 13, 1894	"	Back injured	Fall of slate.
M. Teustruck	Cunard Co.	February 12, 1895	"	Slight injury	" "
Geo. Collins	Smokeless Coal Company	December 4, 1895	"	Arm broken	" "
Joseph Williams	Ballinger Coal and Coke Company	September 3, 1894	"	Back injured	" "
Hartwel Ellis	Mount Carbon Company L't'd	April 7, 1895	"	Leg broken	Fall of coal.
Chas. Duncan	" "	January 4, 1895	"	Leg injured	By car.
Jas. Perry	" "	March 2, 1895	"	2 ribs broken	"
Reuben Long, George Toney, Wm. Duncan	" "	March 6, 1895	Miners	Burned	Powder.
Driden Estep	" "	March 6, 1895	Driver	Back and Loin	Squeezed by mule.
J. E. & W. H. Campbell	St Clair Company	April 5, 1895	Miner	Injured	Fall of slate.
Jas. Lanabe	Wyant Coal and Coke Company	August 2, 1894	"	Leg broken	" "
Jas. Irvings	W. R. Johnson	November 28, 1894	Driver	Breast hurt	Collision of cars,
Ed. Merels	Carver Bros.	May 23, 1895	Miner	Hip dislocated	Fall of slate.
Pete Jarrett	M. T. Davis & Co.	January 6, 1895	"	Cut	Fall of coal.
Holly Scaggs	" "	July 8, 1895	Trapper	Leg hurt	Fall of slate.
Jno. Hopkins	Marmet, Smith Coal and Mining Company	October 15, 1894	Miner	Injured	" "
Robt. Smith	Carver Coal Company	May 18, 1895	"	Hand Injured	" "
Ed. Cobbs	Crozer Coal & Coke Co.	September 11, 1894	"	Seriously mashed	" "
W. P. Pack	" "	November 23, 1894	"	Leg broken	" "
M. G. Brown	" "	August 21, 1894	"	Back injured	" "
Frank Lewis	" "	March 22, 1894	"	Legs hurt	" "
Jas. Bush	" "	June 6, 1894	"	Leg broken	Caught by car

Table Showing Location of Collieries in the Third Mining District of West Virginia.

Name of Colliery.	Name of Operator.	Name of Superintendent.	Location—County.	Post-office Address.
Goodwill	Goodwill Coal & Coke Co.	Philip Goodwill	Mercer	Goodwill
Louisville	Louisville Coal and Coke Co.	Justus Collins	"	"
Buckeye	Buckeye Coal and Coke Co.	John D. Herwit	"	Bramwell
Caswell and Hemlock	Caswell Creek Coal and Coke Co.	Jenkin Jones	"	"
Reliance	Booth Bowen Coal and Coke Co.	J. P. Bowen	"	"
Sterling	Mill Creek Coal and Coke Co.	John Cooper	"	Coopers
Coaldale	Coaldale Coal and Coke Co.	Thos. Cooper	"	"
Elkhorn	Elkhorn Coal and Coke Co	W. H. Barlow	McDowell	May Beury
Shamokin	Shamokin Coal and Coke Co.	John Hunter	"	"
Norfolk	Norfolk Coal and Coke Co.	Stuart M. Buck	"	"
Angle	" "	"	"	"
Lick Branch	Lick Branch Coal and Coke Co	E. J Hutchison	"	"
Turkey Gap	Turkey Gap Coal and Coke Co.	W. H. McOuail	"	Ennis
Houston	Houston Coal and Coke Co.	T. E. Houston	"	Elkhorn
Crozer	Crozier Coal and Coke Co.	F. J. Morgan	"	"
Upland	Upland Coal and Coke Co.	Rolfe Gerhardt	"	"
Powhatan	Powhatan Coal and Coke Co	L. E. Tierney	"	Powhatan
Lynchburg	Lynchburg Coal and Coke Co	L. E. Tierney	"	Kyle
Elk Ridge	Elk Ridge Coal and Coke Co.	H B. Wright	"	"
Algoma	Algoma Coal and Coke Co.	W. H. Thomas	"	Algoma
Gilliam	Gilliam Coal and Coke Co.	James Johnson	"	Gilliam
Rolfe	Rolfe Coal and Coke Co.	Geo. Baddock	"	Worth
Arlington	Arlington Coal and Coke Co.	Jas. Johnson	"	McDowell
Roanoke	Roanoke Coal and Coke Co.	W. S. Conell	"	Worth
Indian Ridge	Indian Ridge Coal and Coke Co.	C. Batsford	"	"
McDowell	McDowell Coal and Coke Co	T. T. Linewerver	"	McDowell
Ashland	Ashland Coal and Coke Co.	T. B. Dennen	"	Ashland
Greenbrier	Greenbrier Coal and Coke Co.	Hugh Johnson	"	McDowell
Keystone	Keystone Coal and Coke Co.	J. K. F. Steele	"	Keystone
Pulaski	Pulaski Iron Co.	S. F. Morris	"	Echman
Eureka	Eureka Coal and Coke Co.	L. E. Tierney	"	"
Shawnee	Shawnee Coal and Coke Co.	W. R. Graham	"	"
Empire	Empire Coal and Coke Co.	W. D. Ord	"	Landgraff
Peerless	Peerless Coal and Coke Co.	H. C. Zacharias	"	Vivian
Bottom Creek	Bottom Creek Coal and Coke Co.	Wm. Spencer	"	Tidewater
Tidewater	Tidewater Coal and Coke Co.	Jas Johnson	"	"
Charleston	Charleston Coal and Coke Co.	T. L. Henritze	"	Welch
Thacker	Thacker Coal and Coke Co.	I. A. Williams	Mingo	Thacker
Maritime	Maritime Coal Co.	Robert Mauchline	"	"
Lynn	Lynn Coal and Coke Co.	S. J. Quimon	"	Sheppard
Dingess	Pearle Mining Co.	J. P. McCafferty	Logan	Dingess

Table Showing Location of Collieries in the Third Mining District of West Virginia.—Continued.

Name of Colliery.	Name of Operator.	Name of Superintendent.	Location—County.	Post-office Address.
Union	Union Mining & M'f'g Co.		Logan	Dingess.
Wells' Branch	Wells Branch Coal Co.	M. D. Janney	Wayne	Preston.
Eureka	M. T. Davis & Co	M. T Davis	Fayette	Montgomery.
Mecca	Mecca Coal & Coke Co.	John Carver	“	Montgomery.
Straughan	Coal Valley Mining Co.	J. W. Straughan	“	Montgomery.
Crescent	W. R. Johnson	J. A. Bertlam	“	Crescent.
Crescent No 2	W. R. Johnson	J. A. Bartlam	“	Crescent.
Edgewater	Carver Bros.	Enoch Carver	“	Edgewater.
Eagle	Wyant Coal & Coke Co.	Wm. Wyant	“	Eagle.
St. Clair	The St. Clair Co	M. T. Davis	“	Eagle.
Diamond	Wyant Coal & Coke Co.	Wm. Wyant	“	Eagle.
Forrest Hill	Forest Hill Coal Co	William Sharpe	“	Eagle.
Powellton	Mt. Carbon Co., (L't'd)	Evan Powell	“	Powellton.
Great Kanawha	Great Kanawha Colliery Co., (L't'd)	Symington Macdonald	“	Mt. Carbon.
Ansted	The Gauley Mountain Coal Co.	Wm. N. Page	“	Ansted.
Gaymont	Deitz, Masterson Coal & Coke Co.	J. A. Deitz	“	Hawk's Nest.
Sunnyside	Thomas Coal Co.	D. P. Bishop	“	Sunnyside.
Elmo	W. A. Burke Coal Co.	W. A. Burke	“	Elmo.
Fayette	Fayette Coal & Coke Co.	J. A Boone	“	Fayette.
Nuttallburg	Nuttallburg Coal & Coke Co.	Wm. H. Holland	“	Nuttall.
Keeney's Creek	Nuttallburg Coal & Coke Co	Wm. H. Holland	“	Nuttall.
Browns	Brown Coal Co.	Percy Brown	“	Nuttall.
Caperton	Wm. Beury Cooper & Co.	William Doner	“	Caperton.
New River	New River Coke Co.	G. H Caperton	“	Caperton.
South Caperton	New River Coke Co.	G. H. Caperton	“	Caperton.
Cliff Top	Longdale Iron Co.	J. A. McGuffin	“	Sewell.
Cunard	Cunard Coal Co.	J. Howald	“	Sewell.
Brooklyn	Brooklyn Coal Co.	J. Howald	“	Sewell.
Fire Creek	Fire Creek Coal & Coke Co.	G H. Caperton	“	Fire Creek.
Dunlow	Red Ash Coal Co.	F. Howald	“	Fire Creek.
Central	Central Coal Co.	J. R. Seal	“	Fire Creek.
Echo	Beury Cooper & Co.	J. L. Beury	“	Beury.
Rush Run	Rush Run Coal & Coke Co.	F. Howald	“	Rush Run.
Dimmock	Dimmock Coke & Coal Co.	W. T. Thayer	“	Thurmond.
Thurmond	Thurmond Coal Co.	G. H. Caperton	“	Concho.
Stone Cliff	Beury Coal & Coke Co.	C. C. Kubach	“	Stonecliff.
Beechwood & Keystone	Beechwood Coal & Coke Co.	C. C. Beury	“	Claremont.
Alaska	Alaska Coal & Coke Co.	Geo. Lawton	“	Claremont.
Slater	Sterling Coal & Coke Co	John I. Jones	“	Coit.
Quinnimont	Quinnimont Coal Co	D. C. Boyce	“	Quinnimont.
Royal	Royal Coal & Coke Co.	Jas Kay	Raleigh	Prince.

Table Showing Location of Collieries in the Third Mining District of West Virginia.—Continued.

Name of Colliery.	Name of Operator.	Name of Superintendent.	Location—County.	Post Office Address.
	LOOP CREEK TERRITORY.			
Macdonald	Macdonald Colliery Company	Samuel Dixon	Fayette	Macdonald.
Turkey Knob	Turkey Knob Coal Company	J. V. Wright	"	Macdonald.
Dunloop	Dunn Loop Coal and Coke Company	Floyd Walker	"	Dun Loop.
Glenjean	Collins Colliery Company	Justus Collins, (Pres't)	"	Glenjean.
Star	Star Coal and Coke Company	Geo. Jones	"	Redstar.
Harvey	Harvey Coal and Coke Company	J. B. McGuffin	"	Bissell.
	KEENEYS CREEK TERRITORY.			
Cavendish	F. J. Cavendish Company	F. J. Cavendish	"	Lookout.
Dubree	Rothwell Coal Company	F. T. Rothwell	"	Nuttall.
Smokeless	Smokeless Coal Company	J. C. Campbell	"	Winoma.
Ballinger, No. 1 and 2	Ballinger Coal and Coke Company	Geo. Holland	"	Nuttall.
Boone	Boone Coal and Coke Company	W. F. Boone	"	Winona.
Florence	Smith-Marmet Coal and Mining Company	Ed. Schonebaum	Putnam	Raymond City.
Queen City	Queen City Coal Company	" "	"	" "
Bancroft	Bancroft Coal Company	Thos. B. Bancroft	"	Bancroft.
Plymouth	Carver Coal Company	Jas. Carver	"	Plymouth.

Table Showing the Analyses of the Coal Mined from the Different Seams in the Third Mining District of West Virginia.

Name of Seam.	Fixed Carbon.	Volatile Matter.	Water.	Sulphur.	Ash.	Name of Company Operating.
Pocahontas or No. 3	75.50	19.07	1.06	5.95	3.98	Greenbrier Coal and Coke Co
Pocahontas or No 3	73.80	20.96	.68	3.25	5.28	Bottom Creek Coal and Coke Co.
Pocahontas or No. 3	75.40	17.57	.70	2.29	6.33	Keystone Coal and Coke Co.
Fire Creek or Red Ash	75.58	22.33	0.50	0.54	1.05	Beury Coal and Coke Co.
Fire Creek or Red Ash	75.46	22.60	....	0.47	0.71	Rush Run Coal and Coke Co.
Lower Kittanning or Ansted	65.00	29.70	1.00	0 30	4.00	Gauley Mountain Coal Co.
Sewell or Nuttallburg	70.65	26.64	0.67	0.50	1.53	Fayette Coal and Coke Co.
Sewell or Nuttallburg	74.12	23.15	0.65	0.84	3.08	Macdonald Colliery Co.
Sewell or Nuttallburg	70.68	26.64	0.67	0.49	1.53	Ballinger Coal and Coke Co.
Sewell or Nuttallburg	75.84	21.83	0.52	0.37	1.85	Collins Colliery Co., Glenjean.
Upper Freeport	56.80	34.63	3.04	0 65	5.33	Wells Branch Coal Co.
Thacker seam	59.50	35.61	1.54	0.99	2.75	Thacker Coal and Coke Co.
Diamond or No. 2 Gas	61.75	23.20	0.83	0.50	1.43	Mt. Carbon Co., Limited.

TABLE SHOWING COKE ANALYSES.

Name of Seam.	Fixed Carbon.	Volatile Matter.	Water.	Sulphur.	Ash.	Name of Company Operating.
Pocahontas or No. 3.	93.41	1.46	0.37	0.85	4.76	Average Flat Top Field.
Fire Creek or Red Ash	91.94	0.49	0.15	0.38	6.92	Fire Creek Coal and Coke Co.
Sewell or Nuttallburg	96.14	0.14	0.29	0.56	2.86	New River Coke Co.
Eagle or No. 1	90.88	....	....	0.57	8.55	Wyant Coal and Coke Co.
Diamond or No. 2	91.05	0.66	0.12	0.63	7.55	Mt. Carbon Co., Limited.
Lower Kittanning or Ansted	88.10	....	1.40	0.50	10.00	Gauley Mountain Coal C.

Table Showing the Analyses of Coke Made of West Virginia Coal, Compared with that of Other Coking Districts.

Name of District.	Fixed Carbon.	Volatile Matter.	Water.	Sulphur.	Ash.
Birmingham	87.30	0.80	0.16	1.19	10.55
Pocahontas	93.41	1.46	0 37	0.85	4.76
New River	92.15	1.12	0.10	0.60	6.01
Connelsville	88.96	0.43	0.06	0.81	9.74

Table Showing Fatal Accidents in the Third Mining District of West Virginia.

Name.	Colliery Where Killed.	Date of Accident.	Occupation.	How Killed.
Gabriel Proctor	Goodwill Coal & Coke Co.	October 13 1894	Miner	Fall of slate.
Benjamin Altzer	"	April 30, 1895	Helper	Fall of slate.
Henry Belcher	Booth Bowen Coal & Coke Co.	April 15, 1895	Miner	Fall of slate.
Ellis Tucker	Mill Creek Coal & Coke Co	August 3, 1894	Miner	Fall of slate.
Luther Johnson	Coledale Coal & Coke Co.	January 3, 1895	Coke man	Struck by engine.
J. Oakley Miles	Lick Branch Coal & Coke Co.	July 14, 1894	Miner	Skull mashed.
Levi Beard	"	April 27, 1895	Miner	Mashed.
Daniel Hollis	Lynchburg Coal & Coke Co.	October 11, 1894	Miner	Locomotive.
Fleety Parker	"	October 27, 1894	Miner	Fall of coal.
Chas. Hendricks	Elk Ridge Coal & Coke Co.	November 19, 1894	Miner	Fall of slate.
Solomon A. Willie	"	July 12, 1895	Miner	Fall of slate.
J L. Lewis	Algoma Coal & Coke Co.	November 12, 1894	Miner	Fall of slate
Jas H. Hag rdush	"	March 6, 1895	Miner	Fall of slate.
Jas. Schmuske	"	April 24, 1895	Miner	Fall of slate.
Robert Jackson	Gilliam Coal & Coke Co.	December 26, 1894	Miner	By mine car.
Dan. Henderson	"	February 2, 1895	Miner	Fall of slate.
J E. Croft	"	February 20, 1895	Miner	Fall of slate.
Monroe D. Smith	Indian Ridge Coal & Coke Co	August 12, 1894	Miner	Fall of slate.
Wm. Gravely	"	March 15, 1895	Miner	Fall of slate.
Harry Robertson	McDowell Coal & Coke Co.	September 7, 1894	Driver	Collision of cars.
Jas. Campbell	Eureka Coal & Coke Co.	July 11, 1894	Miner	Fall of slate.
Antonio Megro	"	December 10, 1894	Miner	Fall of slate.
Alfred King	Bottom Creek Coal & Coke Co.	July 6, 1894	Miner	Fall of slate.
Jno. Wily	"	July 27, 1894	Miner	Caught by car.
Clein Hurt	"	December 7, 1894	Miner	Fall of slate.
Robert Williams	Tidewater Coal & Coke Co.	July 26, 1895	Miner	Fall of slate.
John Williams	Thacker Coal & Coke Co.	February 13, 1895	Miner	Fall of slate.
Florence Morris	Sterling Coal & Coke Co.	January 4th 1895	Miner	Fall of slate.
Chas. Palmer	Fire Creek Coal & Coke Co	March 18, 1895	Miner	Blasting.
John Obley	New River Coke Co.	September 28, 1894	Driver	Thrown by mule.
George Tully	Deitz, Masterson Coal & Coke Co.	August 2, 1894	Miner	Fall of slate.
Herbert Hitt	Gauley Mountain Coal Co.	October 6, 1894	Miner	Fall of slate.
Frank Mallaly	"	November 29, 1894	Trapper	Run over by car.
Elija Heaton	Macdonald Colliery Co.	February 2, 1895	Miner	Fall of rock.
Roy Brown	Dun Loop Coal & Coke Co.	December 14, 1894	Miner	Fall of slate.
Chas. Garland	"	April 2, 1895	Miner	Fall of coal.
C. Bolen	"	January 9, 1895	Miner	Fall of slate.
Jno C. Page	Collins Colliery Co	October 29, 1894	Miner	Fall of slate.
Chas. Lee	"	January 30, 1895	Miner	Fall of slate.
Joe Caloin	"	March 13, 1895	Miner	Fall of coal.
Harry Berryman	Star Coal & Coke Co.	June 10, 1895	Miner	Fall of slate.

Table Showing Fatal Accidents in the Third Mining District of West Virginia.—Continued.

Name.	Colliery Where Killed.	Date of Accident.	Occupation.	How Killed.
Alex. Manfort	Red Ash Coal Co.	November 8, 1894	Miner	Fall of slate.
Jacob Ellis	Cunard Coal Co.	November 20, 1894	Tipple Man	Runaway car.
H. Walker	Boone Coal & Coke Co.	May 28, 1895	Miner	Fall of slate.
Ed. Barrett	Mt. Carbon Co., (L't'd)	April 24, 1895	Miner	Fall of slate.
A. S. Eastman	"	June 19, 1895	Miner	Fall of coal.
Floyd E. Grey	Great Kanawha Colliery Co.	February 19, 1895	Miner	Fall of coal.
Thos. Beirrly	Wyant Coal & Coke Co.	November 23, 1894	Miner	Fall of slate.
Elija Lewis	Carver Bros.	August 7, 1894	Miner	Mine car.
Jasper Harrison	Carver Coal Co.	December 3, 1894	Miners	Burned.
F. O. Harrison				
Andrew E. Smith	"	May 18, 1895	Miners	Fall of slate.
Chas. Smith				
J. H. Thompson	Crozer Coal & Coke Co.	July 21, 1894	Miner	Fall of coal.
Ed Cobbs	"	September 11, 1894	Miner	Fall of slate

Table Showing Number of Employees, &c., of Collieries in the Third Mining District of West Virginia.

NAME OF COMPANY.	Number of Employees.				Kind of Mine.	Mode of Ventilation.	COAL.				Number of coke ovens.	Number of coke ovens now under construction.
	Inside mine.	Outside mine.	At ovens.	Total.			Seam Worked.	Thick.		Kind.		
								Ft	In.			
M. T. Davis & Co	27	9		36	Drift	furnace	Block. or No. 5	6	3	semi-bituminous		
M. T. Davis & Co	46	11		57	"	fan	Coal Valley or No.2	4	6	" "		
Mecca Coal & Coke Co	105	14		119	"	fan	Gas No. 2	4	8	bituminous		
W. R Johnson, 1, 2 and 3	215	25	40	280	"	furnace	No. 2 and No. 5	4½ & 6	1	"	94	
Coal Valley Mining Co	57	5		6	"	"	Gas or No. 2	4	8	"		
Carver Bros	162	23		185	"	"	Gas, Eagle & No 2	5, 4 &	6	"		
Wyant Coal and Coke Co	55	5	29	89	"	"	Eagle or No. 1	4	3	"	54	
St. Clair Co	91	16	30	137	"	"	No. 1 & No 2	4, 3 &	5	"	78	
Wyant Coal and Coke Co	90	9		99	"	"	Gas or No. 2	5	5	"		
Forest Hill Coal Co	25	8		33	"	"	" "	5	0	"		
Mount Carbon Co., (Limited)	299	18	45	362	"	natural	" "	5	8	"	202	
Gt. Kanawha Colliery Co., (Limited)	122	10	30	162	"	fan	" "	4	2	"	66	
Gt. Kanawha Colliery Co	52	8		60	"	natural	" "	4	3	"		
Gauley Mountain Coal Company	380	16	47	443	"	fan	Ansted or L. Kit	5 to 11		"	102	
Deitz-Masterson Coal Co	56	4	6	66	"	furnace	Sewell	3		"	28	
Thomas Coal Co	71	4	5	80	"	"	"	3		"	18	
W. A. Burke Coal Co	35	5		40	"	"	"	3		"		
Fayette Coal and Coke Co	140	10	5	155	"	"	"	3		"	12	
Nuttallburg Coal and Coke Co	132	18	30	180	"	"	"	3½		"	81	4
" " " (Keeney's)	100	14		114	"	natural	"	3½		"		
Brown Coal Co	16	4		20	"	furnace	"		41	"		
Wm. Beury, Cooper & Co	18	3		21	"	natural	"	4		"		
New River Coke Co	120	10	60	190	"	furnace	"	4		"	133	
New River Coke Co., S. Side	78	4		82	"	"	"	4		"		
Longdale Iron Co	165	12	60	237	"	"	"		32	"	193	
Cunard Coal Co	55	6		71	"	"	"		50	"		
Brooklyn Coal Co	71	9		80	"	"	"		51	"		
Fire Creek Coal and Coke Co	130	15	35	180	"	fan	Fire Creek	3		"	95	
Red Ash Coal Co	103	24		127	"	furnace	" "	5		"		
Central Coal Co	110	12	14	136	"	furnace	" "	4		"	50	
Beury, Cooper & Co	92	11	8	111	"	fan	Fire Cr'k & Sewell	4, 2 & 4		"	63	
Rush Run Coal and Coke Co	113	10		123	"	furnace	Fire Creek	5	2	"		

Table Showing Number of Employes, &c., of Collieries in the Third District of West Virginia—Cont.

NAME OF COLLIERY.	Number of Employees.				Kind of mine.	Mode of Ventilation.	COAL.				Number of coke ovens.	Number of coke ovens now under construction.
	Inside mine.	Outside mine.	At coke ovens	Total.			Seam Worked.	Thick. Ft.	In.	Kind.		
Dimmock Coal and Coke Company	127	8		135	Drift	furnace	Fire Creek	4	5	Bituminous		
Thurmond Coal Company	146	12		158	"	fan & furnace	Sewell	5	2	"		
Beury Coal and Coke Company	133	10	10	153	"	furnace	Fire Creek & Sewell	3½ & 4		"	60	
Beechwood Coal and Coke Company	200	25		225	"	furnace	Fire Creek		45	"		
Alaska Coal and Coke Company	107	11	3	119	"	furnace	" "	3	10	"	20	
Sterling Coal and Coke Company	90	10		100	"	furnace	" "		36	"		
Quinnimont Coal Company	73	22	30	125	"	natural	" "	4		"	100	
Royal Coal and Coke Company	105	24		129	"	furnace	" "		38	"		75
LOOP CREEK TERRITORY.												
Macdonald Colliery	160	10		170	Drift	natural	Sewel	5	0	Bituminous		
Turkey Knob Coal Company	85	16		101	"	furnace	"	5	10	"		
Dunn Loop Coal and Coke Company	105	15		120	"	furnace	"	5	8	"		
Collins Colliery Company	125	15		140	Slope	fans	"	5		"		100
Star Coal and Coke Company	52	6		58	Drift	fan	"	5	1	"		
Haney Coal and Coke Company	95	17		112	Drift	fan	"	5	4	"		100
KEENEY CREEK TERRITORY.												
Cavendish Company	15	2		17	Drift	furnace	Sewell		10	Bituminous		
Rothwell Coal Company	72	5		77	"	furnace	"	3½		"		
Smokeless Coal Company	58	5		63	"	furnace	"		40	"		
Ballinger Coal Company, 1 and 2	89	9		98	"	natural	"	4		"		
Boone Coal and Coke Company	44	4		48	"	furnace	"	4		"		
PUTNAM TERRITORY.												
Little Marmet Coal Mining Company	280	30		310	Drift	furnace	Pittsburg	5½		Splint		
Queen City Coal Company	10	2		12	"	furnace	"	4 to 5		"		
Bancroft Coal Company	33	4		37	"	furnace	"	5	4	"		
Carver Coal Company	75	14		89	"	furnace	"	5		"		

Table Showing Number of Employees, Etc., of Collieries in the Third District of West Virginia.—Continued.

NAME OF COMPANY.	Number of Employees.				Kind of Mine	Mode of Ventilation.	COAL.			Number of coke ovens.	No. of coke ovens now under construction.
	Inside Mine.	Outside Mine.	At coke ovens.	Total.			Seam Worked.	Thickness.	Kind.		
POCAHONTAS TERRITORY.											
Goodwill Coal and Coke Company	80	10	15	105	Drift	Fan	No. 3 or Pocahontas		Bituminous	50	
Louisville Coal and Coke	105	10	28	143	"	"	" "		"	75	
Booth, Bowen Coal and Coke Company	199	22	36	257	"	"	" "		"	174	
Buckeye Coal and Coke Company	144	11	20	175	"	"	" "		"	100	
Caswell Creek Coal and Coke Company	325	15	35	375	"	"	" "		"	231	
Mill Creek Coal and Coke Company	130	30	75	235	"	"	" "		"	150	
Coaldale Coal and Coke Company	165	25	85	275	"	"	" "		"	110	
Elkhorn Coal and Coke Company	177	10	40	227	"	"	" "		"	150	
Shamokin Coal and Coke Company	170	10	40	220	"	"	" "		"	150	
Norfolk Coal and Coke Company	135	20	50	205	"	"	" "		"	178	
" (Angle.)	39	5	15	59	"	"	" "		"	32	18
Lick Branch Coal and Coke Company	105	9	42	156	"	"	" "		"	120	
Turkey Gap Coal and Coke Company	140	25	65	230	"	"	" "		"	200	
Houston Coal and Coke Company	140	20	32	192	"	"	" "		"	150	
Crozier Coal and Coke Company	255	34	89	378	"	"	" "		"	300	
Upland Coal and Coke Company	125	14	40	179	"	"	" "		"	200	
Powhatan Coal and Coke Company	110	15	55	180	"	"	" "		"	154	
Lynchburg Coal and Coke Company	98	17	55	165	"	"	" "		"	134	
Elk Ridge Coal and Coke Company	60	7	28	95	"	"	" "		"	100	
Algoma Coal and Coke Company	105	20	70	195	"	"	" "		"	175	
Gilliam Coal and Coke Company	97	8	15	120	"	"	" "		"	100	
Rolfe Coal and Coke Company	90	20	14	124	"	Furnace	" "		"	100	
Roanoke Coal and Coke Company	68	10		78	"	"	" "		"	100	
Arlington Coal and Coke Company	63	9	22	184	"	Fan	" "		"	100	
Indian Ridge Coal and Coke Company	60	5		65	"	Furnace	" "		"	160	
McDowell Coal and Coke Company	90	20	9	119	"	Fan	" "		"	100	
Ashland Coal and Coke Company	61	12		73	"	Furnace	" "		"	100	
Greenbrier Coal and Coke Company	84	5	20	109	"	Fan	" "		"	100	
Keystone Coal and Coke Company	80	6	20	106	"	Furnace	" "		"	100	
Pulaski Iron Company	150	10	40	200	"	Fan	" "		"	153	

Table Showing Number of Employes, Etc., of Collieries in the Third District of West Virginia—Continued.

NAME OF COMPANY.	Number of Employes.				Kind of Mine.	Mode of Ventilation.	COAL				Number of coke ovens.	No. of coke ovens now under construction.
	Inside mine.	Outside mine.	At Coke ovens.	Total.			Seam Worked.	Thickness.		Kind.		
								Ft.	In.			
Eureka Coal and Coke Company	95	10	70	175	Drift	fan	No. 3 or Pocahontas			Bituminous		114
Shawnee Coal and Coke Company	65	25	20	110	"	"	" "			"		100
Empire Coal and Coke Company	60	6	10	76	"	"	" "			"		100
Peerless Coal and Coke Company	168	6	46	220	"	"	" "			"		154
Bottom Creek Coal and Coke Company	81	13	19	113	"	"	" "			"		100
Tidewater Coal and Coke Company	90	7	20	117	Slope	"	" "			"		100
Thacker Coal and Coke Company	68	18		76	Drift	furnace	Thacker	5 to 8		Splint		
Maratime Coal and Coke Company	45	5		50	"	"	"	5		"		
Lynn Coal and Coke Company	22	8		30	"	"	"		52	"		
Pearle Mining Company	42	8		50	"	"	Dingess	4	10	"		

Table Showing Fatal Accidents in the Third Mining District of West Virginia.

Name.	Colliery Where Killed.	Date of Accident.	Occupation.	How Killed.
Gabriel Proctor	Goodwill Coal & Coke Co.	October 13 1894	Miner	Fall of slate.
Benjamin Altzer	"	April 30, 1895	Helper	Fall of slate.
Henry Belcher	Booth Bowen Coal & Coke Co.	April 15, 1895	Miner	Fall of slate.
Ellis Tucker	Mill Creek Coal & Coke Co	August 3, 1894	Miner	Fall of slate.
Luther Johnson	Coledale Coal & Coke Co.	January 3, 1895	Coke man	Struck by engine.
J. Oakley Miles	Lick Branch Coal & Coke Co	July 14, 1894	Miner	Skull mashed.
Levi Beard	"	April 27, 1895	Miner	Mashed.
Daniel Hollis	Lynchburg Coal & Coke Co.	October 11. 1894	Miner	Locomotive.
Fleety Parker	"	October 27, 1894	Miner	Fall of coal.
Chas. Hendricks	Elk Ridge Coal & Coke Co.	November 19, 1894	Miner	Fall of slate.
Solomon A. Willie	"	July 12. 1895	Miner	Fall of slate.
J L. Lewis	Algoma Coal & Coke Co.	November 12, 1894.	Miner	Fall of slate
Jas H. Hag rdush	"	March 6, 1895	Miner	Fall of slate.
Jas. Schmuske	"	April 24, 1895	Miner	Fall of slate.
Robert Jackson	Gilliam Coal & Coke Co.	December 26. 1894	Miner	By mine car.
Dan. Henderson	"	February 2, 1895	Miner	Fall of slate.
J E. Croft	"	February 20. 1895	Miner	Fall of slate.
Monroe D. Smith	Indian Ridge Coal & Coke Co	August 12, 1894	Miner	Fall of slate.
Wm. Gravely	"	March 15. 1895	Miner	Fall of slate.
Harry Robertson	McDowell Coal & Coke Co.	September 7. 1894	Driver	Collision of cars.
Jas. Campbell	Eureka Coal & Coke Co.	July 11, 1894	Miner	Fall of slate.
Antonio Megro	"	December 10. 1894	Miner	Fall of slate.
Alfred King	Bottom Creek Coal & Coke Co.	July 6, 1894	Miner	Fall of slate.
Jno. Wily	"	July 27, 1894	Miner	Caught by car.
Clein Hurt	"	December 7. 1894	Miner	Fall of slate.
Robert Williams	Tidewater Coal & Coke Co.	July 26, 1895	Miner	Fall of slate.
John Williams	Thacker Coal & Coke Co.	February 13, 1895	Miner	Fall of slate.
Florence Morris	Sterling Coal & Coke Co.	January 4th 1895	Miner	Fall of slate.
Chas. Palmer	Fire Creek Coal & Coke Co	March 18, 1895	Miner	Blasting.
John Obley	New River Coke Co.	September 28, 1894	Driver	Thrown by mule.
George Tully	Deitz, Masterson Coal & Coke Co.	August 2, 1894	Miner	Fall of slate.
Herbert Hitt	Gauley Mountain Coal Co.	October 6. 1894	Miner	Fall of slate.
Frank Mallaly	"	November 29. 1894	Trapper	Run over by car.
Elija Heaton	Macdonald Colliery Co.	February 2, 1895	Miner	Fall of rock.
Roy Brown	Dun Loop Coal & Coke Co.	December 14, 1894	Miner	Fall of slate.
Chas. Garland	"	April 2, 1895	Miner	Fall of coal.
C. Bolen	"	January 9. 1895	Miner	Fall of slate.
Jno C. Page	Collins Colliery Co	October 29. 1894	Miner	Fall of slate.
Chas. Lee	"	January 30. 1895	Miner	Fall of slate.
Joe Caloin	"	March 13, 1895	Miner	Fall of coal.
Harry Berryman	Star Coal & Coke Co.	June 10, 1895	Miner	Fall of slate.

Table Showing Fatal Accidents in the Third Mining District of West Virginia.—Continued.

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Jacob Ellis	Cunard Coal Co.	November 20, 1894	Tipple Man	Runaway car.
H. Walker	Boone Coal & Coke Co.	May 28, 1895	Miner	Fall of slate.
Ed. Barrett	Mt. Carbon Co., (L't'd)	April 24, 1895	Miner	Fall of slate.
A. S. Eastman	"	June 19, 1895	Miner	Fall of coal.
Floyd E. Grey	Great Kanawha Colliery Co.	February 19, 1895	Miner	Fall of coal.
Thos. Beirrly	Wyant Coal & Coke Co.	November 23, 1894	Miner	Fall of slate.
Elija Lewis	Carver Bros.	August 7, 1894	Miner	Mine car.
Jasper Harrison	Carver Coal Co.	December 3, 1894	Miners	Burned.
F. O. Harrison				
Andrew E. Smith	"	May 18, 1895	Miners	Fall of slate.
Chas. Smith				
J. H. Thompson	Crozer Coal & Coke Co.	July 21, 1894	Miner	Fall of coal.
Ed Cobbs	"	September 11, 1894	Miner	Fall of slate

Table Showing Number of Employees, &c., of Collieries in the Third Mining District of West Virginia.

NAME OF COMPANY.	Number of Employees.				Kind of Mine.	Mode of Ventilation.	COAL.				Number of coke ovens.	Number of coke ovens now under construction.
	Inside mine.	Outside mine.	At ovens.	Total.			Seam Worked.	Thick.		Kind.		
								Ft	In.			
M. T. Davis & Co.	27	9		36	Drift	furnace	Block. or No. 5	6	3	semi-bituminous		
M. T. Davis & Co.	46	11		57	"	fan	Coal Valley or No.2	4	6	" "		
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W. R Johnson, 1, 2 and 3	215	25	40	280	"	furnace	No. 2 and No. 5	4½ & 6	1	"	94	
Coal Valley Mining Co.	57	5		6	"	"	Gas or No. 2	4	8	"		
Carver Bros.	162	23		185	"	"	Gas, Eagle & No 2	5, 4 &	6	"		
Wyant Coal and Coke Co.	55	5	29	89	"	"	Eagle or No. 1	4	3	"	54	
St. Clair Co.	91	16	30	137	"	"	No. 1 & No 2	4, 3 &	5	"	78	
Wyant Coal and Coke Co.	90	9		99	"	"	Gas or No. 2	5	5	"		
Forest Hill Coal Co.	25	8		33	"	"	" "	5	0	"		
Mount Carbon Co., (Limited)	299	18	45	362	"	natural	" "	5	8	"	202	
Gt. Kanawha Colliery Co., (Limited)	122	10	30	162	"	fan	" "	4	2	"	66	
Gt. Kanawha Colliery Co.	52	8		60	"	natural	" "	4	3	"		
Gauley Mountain Coal Company	380	16	47	443	"	fan	Ansted or L. Ki[illegible]	5 to 11		"	102	
Deitz-Masterson Coal Co.	56	4	6	66	"	furnace	Sewell	3		"	28	
Thomas Coal Co.	71	4	5	80	"	"	"	3		"	18	
W. A. Burke Coal Co.	35	5		40	"	"	"	3		"		
Fayette Coal and Coke Co.	140	10	5	155	"	"	"	3		"	12	
Nuttallburg Coal and Coke Co.	132	18	30	180	"	"	"	3½		"	81	4
" " " (Keeney's).	100	14		114	"	natural	"	3½		"		
Brown Coal Co.	16	4		20	"	furnace	"		41	"		
Wm. Beury, Cooper & Co.	18	3		21	"	natural	"	4		"		
New River Coke Co.	120	10	60	190	"	furnace	"	4		"	133	
New River Coke Co., S. Side	78	4		82	"	"	"	4		"		
Longdale Iron Co.	165	12	60	237	"	"	"		32	"	193	
Cunard Coal Co	55	6		71	"	"	"		50	"		
Brooklyn Coal Co	71	9		80	"	"	"		51	"		
Fire Creek Coal and Coke Co.	130	15	35	180	"	fan	Fire Creek	3		"	98	
Red Ash Coal Co.	103	24		127	"	furnace	" "	5		"		
Central Coal Co.	110	12	14	136	"	furnace	" "	4		"	50	
Beury, Cooper & Co.	92	11	8	111	"	fan	Fire Cr'k & Sewell	4, 2 & 4		"	63	
Rush Run Coal and Coke Co.	113	10		123	"	furnace	Fire Creek	5	2	"		

Table Showing Number of Employes, &c., of Collieries in the Third District of West Virginia—Cont.

NAME OF COLLIERY.	Number of Employees.				Kind of mine.	Mode of Ventilation.	COAL.				Number of coke ovens.	Number of coke ovens now under construction.
	Inside mine.	Outside mine.	At coke ovens	Total.			Seam Worked.	Thick.		Kind.		
								Ft.	In.			
Dimmock Coal and Coke Company	127	8		145	Drift.	furnace	Fire Creek	4	5	Bituminous		
Thurmond Coal Company	146	12		158	"	fan & furnace	Sewell	5	2	"		
Beury Coal and Coke Company	133	10	10	153	"	furnace	Fire Creek & Sewell	3½ & 4		"	60	
Beechwood Coal and Coke Company	200	25		225	"	furnace	Fire Creek		45	"		
Alaska Coal and Coke Company	107	11	3	119	"	furnace	" "	3	10	"	20	
Sterling Coal and Coke Company	90	10		100	"	furnace	" "		36	"		
Quinnimont Coal Company	73	22	30	125	"	natural	" "	4		"	100	
Royal Coal and Coke Company	105	24		129	"	furnace	" "		38	"		75
LOOP CREEK TERRITORY.												
Macdonald Colliery	160	10		170	Drift.	natural	Sewel	5	0	Bituminous		
Turkey Knob Coal Company	85	16		101	"	furnace	"	5	10	"		
Dunn Loop Coal and Coke Company	105	15		120	"	furnace	"	5	8	"		
Collins Colliery Company	125	15		140	Slope	fans	"	5		"		100
Star Coal and Coke Company	52	6		58	Drift	fan	"	5	1	"		
Haney Coal and Coke Company	95	17		112	Drift	fan	"	5	4	"		100
KEENEY CREEK TERRITORY.												
Cavendish Company	15	2		17	Drift	furnace	Sewell		10	Bituminous		
Rothwell Coal Company	72	5		77	"	furnace	"	3½		"		
Smokeless Coal Company	58	5		63	"	furnace	"		40	"		
Ballinger Coal Company, 1 and 2	89	9		98	"	natural	"	4		"		
Boone Coal and Coke Company	44	4		48	"	furnace	"	4		"		
PUTNAM TERRITORY.												
Little Marmet Coal Mining Company	280	30		310	Drift.	furnace	Pittsburg	5½		Splint		
Queen City Coal Company	10	2		12	"	furnace	"	4 to 5		"		
Bancroft Coal Company	33	4		37	"	furnace	"	5	4	"		
Carver Coal Company	75	14		89	"	furnace	"	5		"		

Table Showing Number of Employes, Etc., of Collieries in the Third District of West Virginia.—Continued.

NAME OF COMPANY.	Number of Employees.				Kind of Mine	Mode of Ventilation.	COAL.			Number of coke ovens.	No. of coke ovens now under construction.
	Inside Mine.	Outside Mine.	At coke ovens.	Total.			Seam Worked.	Thickness.	Kind.		
POCAHONTAS TERRITORY.											
Goodwill Coal and Coke Company	80	10	15	105	Drift	Fan	No. 3 or Pocahontas		Bituminous	50	
Louisville Coal and Coke	105	10	28	143	"	"	" "		"	75	
Booth, Bowen Coal and Coke Company	199	22	36	257	"	"	" "		"	174	
Buckeye Coal and Coke Company	144	11	20	175	"	"	" "		"	100	
Caswell Creek Coal and Coke Company	325	15	35	375	"	"	" "		"	231	
Mill Creek Coal and Coke Company	130	30	75	235	"	"	" "		"	150	
Coaldale Coal and Coke Company	165	25	85	275	"	"	" "		"	110	
Elkhorn Coal and Coke Company	177	10	40	227	"	"	" "		"	150	
Shamokin Coal and Coke Company	170	10	40	240	"	"	" "		"	150	
Norfolk Coal and Coke Company	135	20	50	205	"	"	" "		"	172	
" (Angle.)	39	5	15	59	"	"	" "		"	32	18
Lick Branch Coal and Coke Company	105	9	42	156	"	"	" "		"	120	
Turkey Gap Coal and Coke Company	140	25	65	230	"	"	" "		"	200	
Houston Coal and Coke Company	140	20	32	192	"	"	" "		"	150	
Crozier Coal and Coke Company	255	34	89	378	"	"	" "		"	300	
Upland Coal and Coke Company	125	14	40	179	"	"	" "		"	200	
Powhatan Coal and Coke Company	110	15	55	180	"	"	" "		"	154	
Lynchburg Coal and Coke Company	98	17	55	165	"	"	" "		"	134	
Elk Ridge Coal and Coke Company	60	7	28	95	"	"	" "		"	100	
Algoma Coal and Coke Company	105	20	70	195	"	"	" "		"	175	
Gilliam Coal and Coke Company	97	8	15	120	"	"	" "		"	100	
Rolfe Coal and Coke Company	90	20	14	124	"	Furnace	" "		"	100	
Roanoke Coal and Coke Company	68	10		78	"	"	" "		"	100	
Arlington Coal and Coke Company	63	9	22	184	"	Fan	" "		"	100	
Indian Ridge Coal and Coke Company	60	5		65	"	Furnace	" "		"	100	
McDowell Coal and Coke Company	90	20	9	119	"	Fan	" "		"	100	
Ashland Coal and Coke Company	61	12		73	"	Furnace	" "		"	100	
Greenbrier Coal and Coke Company	84	5	20	109	"	Fan	" "		"	100	
Keystone Coal and Coke Company	80	6	20	106	"	Furnace	" "		"	100	
Pulaski Iron Company	150	10	40	200	"	Fan	" "		"	153	

Table Showing Number of Employes, Etc., of Collieries in the Third District of West Virginia—Continued.

NAME OF COMPANY.	Number of Employes.				Kind of Mine.	Mode of Ventilation.	COAL				Number of coke ovens.	No. of coke ovens now under construction.
	Inside mine.	Outside mine.	At Coke ovens.	Total.			Seam Worked.	Thickness.		Kind.		
								Ft.	In.			
Eureka Coal and Coke Company	95	10	70	175	Drift	fan	No. 3 or Pocahontas			Bituminous		114
Shawnee Coal and Coke Company	65	25	20	110	"	"	" "			"		100
Empire Coal and Coke Company	60	6	10	76	"	"	" "			"		100
Peerless Coal and Coke Company	168	6	46	220	"	"	" "			"		154
Bottom Creek Coal and Coke Company	81	13	19	113	"	"	" "			"		100
Tidewater Coal and Coke Company	90	7	20	117	Slope	"	" "			"		100
Thacker Coal and Coke Company	68	18		76	Drift	furnace	Thacker	5 to 8		Splint		
Maratime Coal and Coke Company	45	5		50	"	"	"	5		"		
Lynn Coal and Coke Company	22	8		30	"	"	"		52	"		
Pearle Mining Company	42	8		50	"	"	Dingess	4	10	"		

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